

Operation Manual and Parts Book

RC 190 Rotary Cultivator



Product Code: L2068-GB

CONTENTS

Welcome to your new Wessex Product	3
Safety Decals	4, 5
Important Safety Warnings	6
Warranty	7
Technical Specifications	8
Safety Instructions	9, 14
Set Up / Lower Hitches Positioning	15, 16
Connecting to the Tractor	17
Driveline Installation	18, 19
Tractor Stability	20
Start-up	21
Operating Instructions	22
Lower Clevises Adjustment	23
Friction Clutch Adjustment	24
Skids Adjustment	25
Rear Board Adjustment	26
Stopping and Disconnection	27
Transporting / Maintenance	28
Blades Replacement	29
Gearbox Lubrication	30
Side Case Lubrication	31
Bearing House Lubrication	32
Maintenance / Driveshaft Clutch	33
Storage / Scrapping	34
Troubleshooting	35, 36
Torque Values Table / Spare Parts	37
Parts Illustration - Main Frame and Rotor Assembly	38

CONTENTS

Parts List - Main Frame and Rotor Assembly	.39
Parts Illustration - Main Frame and Rotor Assembly	.40
Parts List - Main Frame and Rotor Assembly	.41
Parts Illustration / Parts List - Rotor Support - Drive End	.42
Parts Illustration / Parts List - Rotor Support - Non Drive End	.43
Parts Illustration - Gearbox Assembly	.44
Parts List - Gearbox Assembly	.45
Parts Illustration - CE Kit Assembly	.46
Parts List - CE Kit Assembly	.47
P.T.O. Shaft - Operation and Maintenance	.48, 49
Safety Training Induction	.50
Daily Inspection Record	.51
CE Certificate	.52

WELCOME TO YOUR NEW WESSEX PRODUCT

Thank you for purchasing a Wessex product. As a Wessex customer, you now number among the most important people of our business and we will endeavour to give you the best service available through our dealer network.

Please read this Manual carefully and familiarise yourself and other persons that will be using the machine with its contents, to ensure the optimum performance and working life of your machine. It is advisable that a copy of this Manual is kept in the workshop and one copy with the machine. Further copies are available through your dealer.

On delivery, your dealer should go through the workings of the machine with you, explaining the setting up procedures, all of which are contained in this manual for further reference.

The Warranty Registration Form must also be completed via our Website:
www.wessexintl.com/warranty-registration.

**PLEASE READ THE FOLLOWING PAGES CAREFULLY BEFORE USING YOUR MACHINE
AND KEEP THIS MANUAL IN A SAFE PLACE.**



**THIS SAFETY SYMBOL IS TO ALERT OPERATORS OF A HAZARD
THAT MAY RESULT IN INJURY.
ALWAYS FOLLOW INSTRUCTIONS CAREFULLY**

SAFETY DECALS



- GB **ATTENTION** Description of pictograms.
 F **ATTENTION** Description des pictogrammes.
 D **VORSICH** Beschreibung von Piktogrammen.



- GB Read Operating manual before use.
 F Lire le Manuel d'utilisation avant l'utilisation.
 D Vor Benutzung Betriebsanleitung lesen.



- GB Ear defenders must be worn.
 F Porter des protections d'oreilles.
 D Gehörschutz muss getragen werden.



- GB Never remove guards or attempt adjustment until rotor has stopped.
 F Ne jamais retirer les protections ni tenter des ajustements si les rotors sont en mouvement.
 D Niemals Schutzvorrichtungen abnehmen oder eine Einstellung versuchen, bevor der Rotor stillsteht.



- GB Bystanders must be at least 20 metres from machine range of action.
 F Les personnes présentes doivent s'écarter d'au moins 20 mètres du rayon d'action de la machine.
 D Umstehende müssen mindestens 20 m vom Wirkungsbereich der Maschine entfernt sein.



- GB Stand clear. Flying objects possible.
 F S'éloigner ! Possibilité d'objets volants.
 D Zurückbleiben! Herumfliegende Objekte möglich.



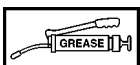
- GB Lift Machine before turning
 F Soulever la machine avant les virages.
 D Die Maschine vor dem Wenden anheben.



- GB Examine blades regularly. The operator is responsible for machine damage caused by unbalanced rotors.
 F Examiner les lames régulièrement. L'opérateur est responsable des dommages à la machine provoqués par des rotors mal équilibrés.
 D Die Messer regelmäßig untersuchen. Der Bediener ist für Maschinenschäden verantwortlich, die durch unwuchtige Spindeln entstehen.



- GB Keep hands and feet clear
 F Ne pas approcher les mains et les pieds.
 D Hände und Füße fernhalten.



- GB Grease points
 F Points de graissage.
 D Schmierpunkte.

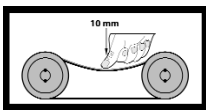
SAFETY DECALS



- GB Lifting Point
F Point de levage
D Hebepunkt



- GB Caution, Pinch Points.
F Attention, points de pincement.
D Vorsicht, Einklemmgefahr.



- GB CORRECT BELT TENSION: Check belt tension regularly:
10mm of belt deflection at thumb pressure between pulleys.
- F TENSIONNEMENT CORRECT DE LA COURROIE : Contrôler le tensionnement régulièrement :
la déflexion de la courroie sous la pression du pouce entre les deux poulies doit être de 10 mm.
- D KORREKTE RIEMENSPANNUNG: Riemen­spannung regelmäßig überprüfen:
10 mm Eindrücktiefe bei Daumendruck zwischen Riemen­scheiben.

IMPORTANT NOTICE

FITTING P.T.O. SHAFT TO MACHINE & TRACTOR

- All safety chains must be anchored tight enough to allow a small amount of movement, but not enough to wrap around the P.T.O. Shaft.
- Ensure that the shaft and guard is regularly greased to avoid overheating and to give lubrication.
- **Important:** Thoroughly read through the manufacturers instruction book before using the P.T.O. Shaft.

P.T.O.Shafts are not covered by the Wessex Warranty.

IMPORTANT SAFETY WARNINGS



Wessex machines are guarded for your protection, but you must always observe certain elementary precautions. Machines are potentially **dangerous** and should be used with the greatest respect and **ALL OPERATORS MUST** read this manual and be aware of all safety precautions.

1. **NEVER** attempt any adjustment whatsoever, unless the machine is **COMPLETELY** at a standstill and the P.T.O. drive and blades have stopped turning. **Stop Engine and remove Tractor Key.**
2. **NEVER** attempt to clear any obstructions around the mower unless the machine is **COMPLETELY** at a standstill and the P.T.O. drive and blades have been stopped. **Stop Engine and remove Tractor Key.**
3. **NEVER** remove belt guards unless the machine is **COMPLETELY** at a standstill. **Stop Engine and remove Tractor Key.**
4. **NEVER** remove safety guards which are provided for your protection.
5. **NEVER** operate the mower with people around, keep everybody (especially children and animals) at a safe distance, **minimum 20 metres.**
6. Stand well back from the machine when cutters are spinning.
7. Regularly inspect the **BLADES AND FIXING BOLTS** to ensure that they are in excellent condition. Replace blades **IMMEDIATELY** if any signs of fracture or excess wear becomes apparent. Serious damage, which is excluded from our warranty conditions, may result from using your mower with an unbalanced rotor. When replacing blades, always fit new mounting bolts and nuts to ensure that the rotor is balanced and running smoothly.

HEALTH AND SAFETY - Noise at Work Regulations

READING AT THE OPERATORS EAR

Wessex RC190 Cultivator: Approximately 95 D.B.A

Depending on conditions and material being cut, this reading may alter, it is therefore advisable for users to do their own assessment.



In compliance with the above regulations, Ear Protectors must be worn when operating machinery.

WARRANTY

Your Wessex product or equipment is warranted free from defect in workmanship or manufacture for one year from date of purchase. Any parts which appear to us to be defective, either in material or workmanship shall be replaced or repaired at no cost to the purchaser, subject to the following conditions:

1. You should register your product within seven days of purchase via our Website:
www.wessexintl.com/warranty-registration
2. Any failure in the machine should be reported in the first instance immediately to your dealer, who will act on your behalf to resolve the matter to your satisfaction.
3. The defective parts will be returned by your dealer to us, accompanied by a full statement describing the failure and the circumstances and conditions in which the failure occurred.
4. The following are specifically excluded from our terms of warranty:
 - a) Fair wear and tear, especially to belts, blades, bearings and bushes.
 - b) Damage caused through incorrect adjustment (see instructions).
 - c) Damage caused by neglect or lack of lubrication.
 - d) Damage caused by misuse or abuse, including impact damage to blades.
 - e) Damage caused whilst the machine is in transit.
 - f) **Damage caused to the frame of the machine by running the machine with unbalanced rotors, blades or blade bars.**
 - g) Damage caused to the machine by use with loose nuts, bolts, screws or any other type of fittings.
 - h) Please note that P.T.O. Shafts are not covered by the Wessex warranty.
 - i) Damage caused to the machine by impact or collision to the machine . Howsoever caused.
5. The warranty is for the benefit of the first user only.
6. Wessex International decisions will be final and binding.

Note:

It is recommended that every machine is inspected after one hour of operation to check that all nuts, bolts, screws or any other types of fixings are tight and any loose fixings or components should be rectified as appropriate.

Further inspections should be carried out at regular intervals thereafter.

TECHNICAL SPECIFICATIONS

		RC-190
Overall Dimensions	mm	2063 x 1055 x 795
Tilling width	in	72"
	cm	191
Recommended tractor HP range	HP	45-60
3-point hitch type	-	Cat.I and II
Number of Flanges on Rotor	No.	8
Total number of tines on Rotor	No.	48
PTO input speed	rpm	540
Rotor Shaft Speed	rpm @ 540	241
Standard Tine Construction	-	curved
Transmission type	-	gear
Max working depth	cm	19
Rotor tube diameter	mm	89
Rotor Swing Diameter	mm	480
Driveline safety device	-	slip clutch
Weight (driveline not included)	lbs	926
	kg	420

SAFETY

Proper use of the equipment, a strict observance of the safety messages listed below and application of all reasonable practices to avoid any risks, prevents accidents or injury, allows the machine working better and longer, and minimise the failures.

The manufacturer assumes no liability for any damage resulting from not applying the behavioural rules indicated into the manual.

GENERAL SAFETY INSTRUCTION



DANGER

The machine must be used only by authorised and well trained operators. The operator must have read and understood the instructions of this manual, it must make adequate preparation for the proper use of the machine and must hold a driving license. In case of doubt about the use of the machine and/or the interpretation of this manual, the operator must contact the Manufacturer or the Dealer.



WARNING

The manual must always remain with the machine. In case of loss or damage, request a new copy to the Manufacturer or your Dealer.



WARNING

Follow strictly the rules prescribed by the safety pictograms applied to the machine.



WARNING

Be sure that all safety pictograms are legible. If pictograms are worn, they must be replaced with others obtained from the Manufacturer, and placed in the position indicated by this manual.



DANGER

Before using the machine, make sure that all safety devices are installed and in good working conditions. In case of damage of guards, replace them immediately.



DANGER

It is absolutely forbidden to remove or alter safety devices.



DANGER

Before starting, and during operation of the Flail Mower, make sure there are no people or animals in the operation area: the machine can project material from the rear, with risks of serious injury or death.



DANGER

Pay maximum attention to avoid any accidental contact with rotating parts of the machine.



DANGER

During operation, adjustment, maintenance, repairing or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE).



DANGER

Do not operate the implement while wearing loose fitting clothing that can give rise to entanglement in parts of the machine.

SAFETY



DANGER

Do not operate the implement when tired, not in good physical condition or under the influence of alcohol or drugs.



CAUTION

If the use of the machine is required at night or in conditions of reduced visibility, use the lighting system of the tractor and possibly an auxiliary lighting system.

EQUIPMENT SAFETY INSTRUCTION



WARNING

Use the Cultivator for its intended purpose only. Improper use can damage the Cultivator and cause serious injury or even death to both people and animals.



DANGER

The machine should be used by a single operator driving the tractor.



WARNING

Any unauthorised modification of the machine may cause problems in safety and relieves the Manufacturer from any liability for damages or injuries that may result to operators, third parties and objects.



WARNING

Before using the machine, familiarise yourself with its controls and its working capacity.



WARNING

Do not leave the Cultivator unattended with tractor engine running.



WARNING

Keep the machine clean from debris and foreign objects which may damage functioning or cause injury.



WARNING

Do not use the machine if the category of the connecting pins of the Flail Mower does not match that of the tractor hitch system.



WARNING

Do not use the machine with missing bolts, screws, pins or safety pins, safety guards etc.



WARNING

Never use the machine to transport or lift people, animals or objects.



WARNING

Make certain, by adding front ballast, that at least 20% of the total weight (tractor, implement and ballast) is on the front axle of the tractor, to ensure stability.

SAFETY



WARNING

Before engaging the tractor P.T.O., make sure the tractor P.T.O. speed is set as required for the Cultivator (540 rpm). Do not over speed P.T.O. or machine breakage may result.



DANGER

Do not operate the Cultivator if the P.T.O. driveshaft is damaged. The driveshaft could be subject to breakage during operation, causing serious injury or death. Remove the driveshaft and replace it with an undamaged one.



WARNING

With the Cultivator disconnected from tractor, rest the driveline on the provided support of the Cultivator

OPERATING SAFETY INSTRUCTION



WARNING

Before using the machine, be sure to have cleared the operating area from obstacles (stones, branches, debris, etc...). Mark all the obstacles that cannot be eliminated (e.g. by means flags).



DANGER

Never engage the tractor P.T.O. in the presence of people close to the driveshaft. The body, hair or clothing of a person can get caught in rotating parts, causing serious injury or death.



DANGER

Before engaging the P.T.O. and during all operations, make sure that no person or animal is in immediate area of action of the machine. Never use the Cultivator if people are in the working area.



DANGER

It's absolutely forbidden to stand near the Cultivator when it is running.



WARNING

The operator must operate machine lifting/lowering only from the driving seat of the tractor. Do not perform lifting manoeuvres from the side or behind the tractor.



DANGER

In presence of steep slopes (greater than 15 degrees) operating the Cultivator may cause instability of the tractor with risk of tipping and possible serious injury or death hazard. Consult the manual for the tractor to determine the maximum slope that the tractor is able to deal with.



DANGER

Always disengage the P.T.O. before raising the Flail Mower, and never engage the P.T.O. with the Flail Mower in the raised position. The machine might throw objects at high speed, causing serious injury or death.

SAFETY



WARNING

Never leave the driver's seat when the tractor is turned on. Before leaving the tractor, lower the Cultivator to the ground, disengage the P.T.O., apply the parking brake, stop the engine and remove the key from the tractor.



DANGER

The P.T.O. shields of tractor and implement side, the driveshaft shielding and the driveshaft retaining chains must be properly installed and in good condition, to avoid risk of entanglement with serious injury or death.



DANGER

Before engaging the P.T.O. of the tractor, always make sure that the driveshaft is mounted in the correct direction, and that its clamping elements are properly connected both to tractor side and to Cultivator side.



WARNING

Stop operating immediately if blades strike a foreign object. Repair all damage and make certain rotor and blades are in good condition before resuming operation.



WARNING

Always disengage the tractor P.T.O. when the driveshaft exceed an angle of 10 degrees up or down while operating. An excessive angle with driveshaft rotating can break the driveshaft and cause flying projectiles.



CAUTION

Prolonged use of the Cultivator can cause overheating of the gearbox. Do not touch the gearbox during use and immediately after, it could be extremely hot and cause severe burns.



WARNING

All adjustment operations on the Cultivator must be performed by qualified and trained operators, with the tractor engine off, the P.T.O. disengaged, the Cultivator lowered to the ground or on security stands, the ignition key off and the parking brake set.

TRANSPORTING SAFETY INSTRUCTION



WARNING

Before transporting the machine, determine the stopping characteristics of the tractor and implement.



WARNING

Transport only at speeds where you can maintain control of the equipment.



WARNING

When driving on roads, the implement must be in transport position adequately raised from the road surface, with tractor lifting hydraulics locked so that the Cultivator cannot be lowered accidentally.

SAFETY



DANGER

The implement may be wider than the tractor. Pay attention during transporting to persons, animals or exposed obstacles.



WARNING

When turning, use extreme care and reduce tractor speed.



WARNING

Do not operate the tractor with weak or faulty brakes or worn tyres.



CAUTION

Always use tractor lighting system and auxiliary lighting system for an adequate warning to operators of other vehicles, especially when transporting at night or in conditions of reduced visibility.



LIFTING

In case it is required to lift the machine, make sure that the lifting device chosen is suitable to perform the operation safely, and use only the lifting points prescribed on the Cultivator.

MAINTENANCE SAFETY INSTRUCTION



WARNING

All maintenance and repairing operations must be performed by qualified and trained operators, with the tractor engine off, the P.T.O. disengaged, the Cultivator lowered to the ground or on security stands, the ignition key off and the parking brake set.



WARNING

Perform repairs and replacements necessary to the machine using only original spare parts provided by the manufacturer or your Dealer.



DANGER

Perform maintenance operations always using appropriate Personal Protective Equipment (protective eye glasses, hard hat, hearing protection, safety shoes, overalls and work gloves).



CAUTION

Before any maintenance operation, make sure that the parts which may become hot during use (gear box) have cooled.



WARNING

Repairs, always follow the manual instructions and in case of doubt contact the Manufacturer or your Dealer.



DANGER

Do not swallow fuels or lubricants. In case of accidental contact with eyes, rinse well with water and consult a doctor.

STORAGE SAFETY INSTRUCTIONS



WARNING

Never leave the tractor unattended with the Cultivator in lifted position. Accidental operation of lifting lever or a hydraulic failure may cause the sudden drop of the unit with injury or death by crushing.



DANGER

Following operation, or before unhooking the Cultivator, stop the tractor, set the brakes, disengage the P.T.O., lower the attached Cultivator to the ground, stop the engine, remove the ignition key and wait for all moving parts to stop.



DANGER

Make sure when parking the Cultivator to do so on a hard, level surface and engage all safety devices and stands.



CAUTION

When parking, place support blocks under the mower as needed to prevent the unit from tipping over onto a child and/or an adult. An implement that tips over can result in injury or death.



CAUTION

Store the unit in an area away from human activity.

SAFETY LABELS

The safety labels applied on the machine give fundamental information for using the machine safely.

Make sure all safety labels are in good condition. If pictograms are worn, they must be replaced with others obtained from the manufacturer. Make sure the safety labels are legible. If necessary, wipe them with a cloth, using soap and water.

SET UP

The Cultivator is delivered equipped with a P.T.O. driveshaft with slip clutch and related operating manual. When the machine is delivered, check that there is no damage to the Cultivator or driveshaft. In case of damage or missing parts immediately notify Wessex International or your Dealer.

Because of his size, the machine could be delivered with some parts to be assembled.

In this case, the assembly of such parts is an owner's task, and must be performed carefully, with reference to the tables of the Spare parts section.



WARNING

For proper tightening torques of bolts and screws, refer to the table in this manual.

LOWER HITCHES POSITIONING

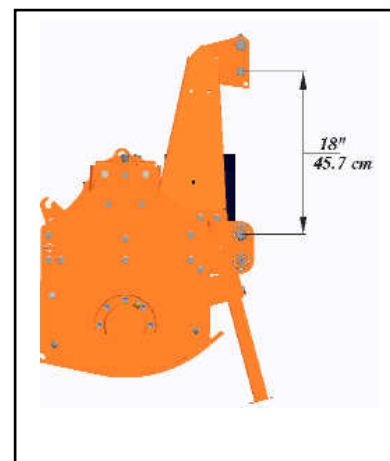
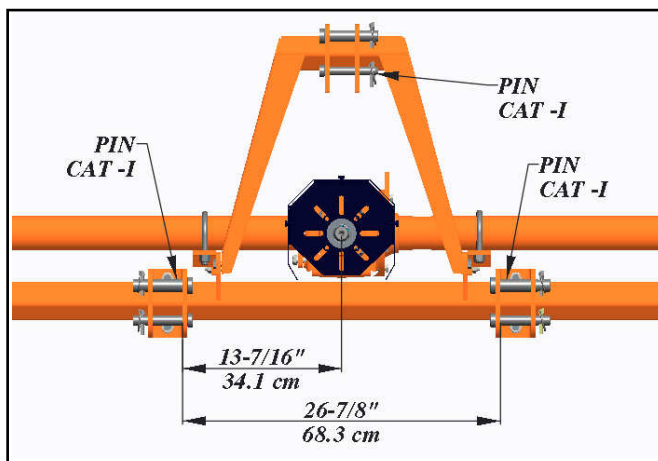
The Cultivator is designed to be mounted on tractors equipped with:-

- 3-point Hitch Category I (ISO 730 standard).
- 3-point Hitch Category II (ISO 730 standard).

The position of the lower hitches must be adjusted accordingly.

If the tractor is equipped with a 3-point Hitch Category I (ISO 730 standard):-

- Verify that the lower clevises are equipped with I Category pins, so that the distance between upper and lower pins is 18" (460mm approximately), as required from the standard (see figure below).
- Verify that the lower clevises on the square tube are at a distance of 13 7/16" from the centre of the Cultivator PTO. The clevises shall be positioned equally from the PTO, at a distance of 26 7/8" (683mm) see figure below:-

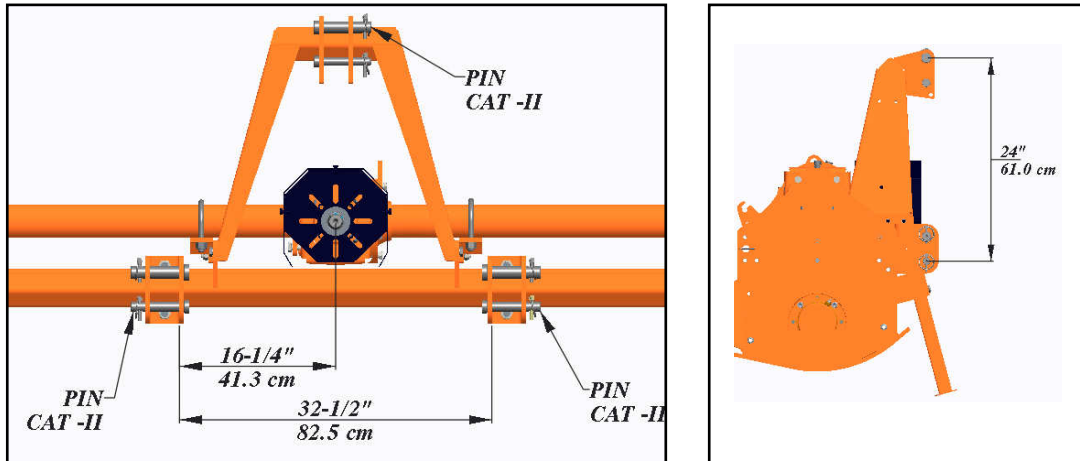


- Loosen the U-bolt clamping the clevis to the square tube.
- Slide the clevis on the square tube, positioning it at a distance of 13 7/16" from the centre of the Cultivator PTO. At the end of the operation the clevises should be positioned symmetrically from the PTO at a distance of 26 7/8".
- Re-tighten the U-bolt, referring the the tightening table of this manual.

SET UP

If the tractor is equipped with a 3-point Hitch Category II (ISO 730 standard):-

- Verify that the lower clevises are equipped with II Category pins, so that the distance between the upper and lower pins is 24" (610mm) as required from the standard (see figure below).
- Verify that the lower clevises on the square tube are at a distance of 16 1/4" from the centre of the Cultivator PTO. The clevises should be positioned symmetrically from the PTO, at a distance of 32 1/2" (825 mm) - see figure below.



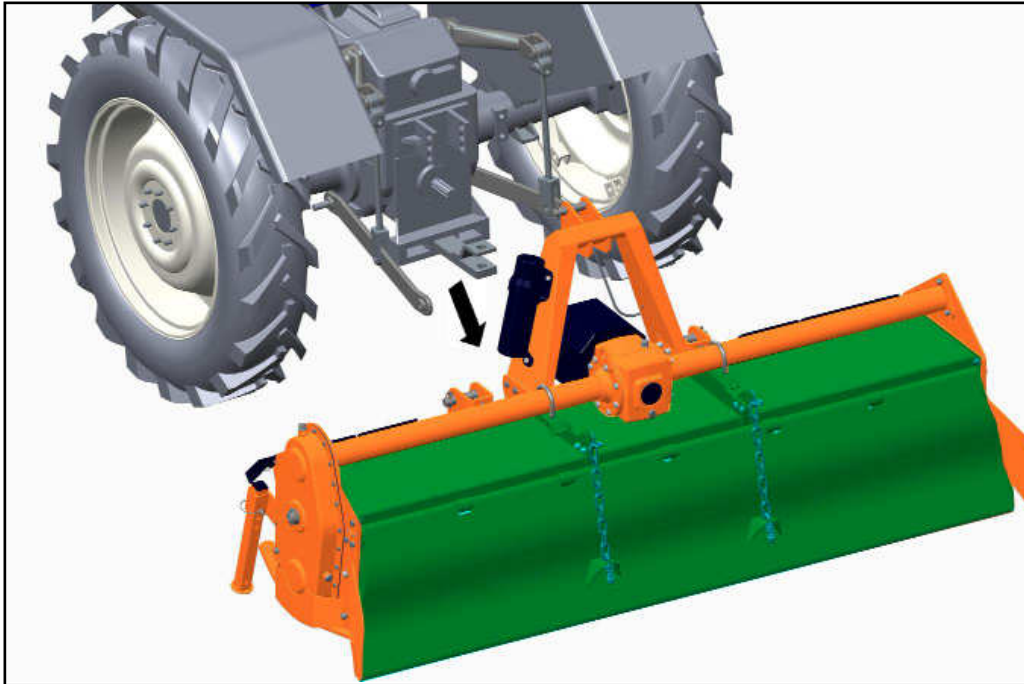
To adjust , proceed as follows for each of the two clevises:-

- Loosen the U-bolt clamping the clevis to the square tube.
- Slide the clevis on the square tube, positioning it at a distance of 16 1/4" from the centre of the Cultivator PTO. At the end of the operation the clevises should be positioned symmetrically from the PTO, at a distance of 32 1/2".
- Re-tighten the U-bolt, referring the the tightening table of this manual.

CONNECTING TO THE TRACTOR

To connect the Cultivator to the tractor the operator must do the following:-

- Drive the tractor in reverse, up to align the rear lifting arms to lower hitches of the Cultivator in parking.
(see picture below);



- Set the tractor's parking brake, stop engine, remove the ignition key and get off the tractor;
- Connect the lifting arms of the tractor to the lower hitches of the Cultivator, and the 3-point top link to the upper hitch of the Cultivator, through the use of the pins and the relative safety split pins;
- Raise the Cultivator until P.T.O.s of tractor and machine are at the same height, then adjust the 3-point top link so that the front of the machine is levelled to the back (the axis of the Cultivator P.T.O. must be parallel to the ground), in order to limit stress transmitted to the Cultivator through the cardan shaft;
- Make sure that left side of the Cultivator is levelled with the right, by adjusting the tractor lifting arms, then lock the arms to prevent swinging that could compromise the stability of tractor and machine;
- Finally adjust the parking stand, placing it at the highest point by means of the related elastic pin.

DRIVELINE INSTALLATION

Before installing the driveshaft, the operator must read the manuals of driveshaft and tractor, checking in particular that rpm and direction of rotation of the tractor P.T.O. match those of the Cultivator.

If the direction of rotation of the PTO tractor does not match that of the Cultivator contact the Manufacturer or your Dealer.

To connect the driveshaft to the tractor and implement, the operator must:-

- Park tractor and Cultivator on a flat surface, with parking brake set, engine off, and ignition key removed.
- Check that the safety devices of driveshaft, Cultivator and tractor are in good condition, otherwise they must be replaced.
- Remove the P.T.O. shield of the Cultivator through the fixing screws.
- Position the driveshaft with clutch towards the implement side.
- Insert the clutch hub on the Cultivator P.T.O., then ensure it is tight on the shaft through its fastener.
- Replace the P.T.O. shield of the Cultivator through the fixing screws;
- Insert the driveshaft yoke on the tractor P.T.O., then ensure it is tight on the shaft through its fastener.
- Hook to the tractor and Cultivator the two retaining chains of the driveline shielding, to prevent shielding rotation during operation of the machine.

DRIVELINE LENGTH CHECK

Before operating the Cultivator, ensure that the size of driveshaft is adequate. The driveshaft supplied with the machine has a standard length, therefore it may need the length adjusted, depending on the tractor which the Cultivator is attached to.

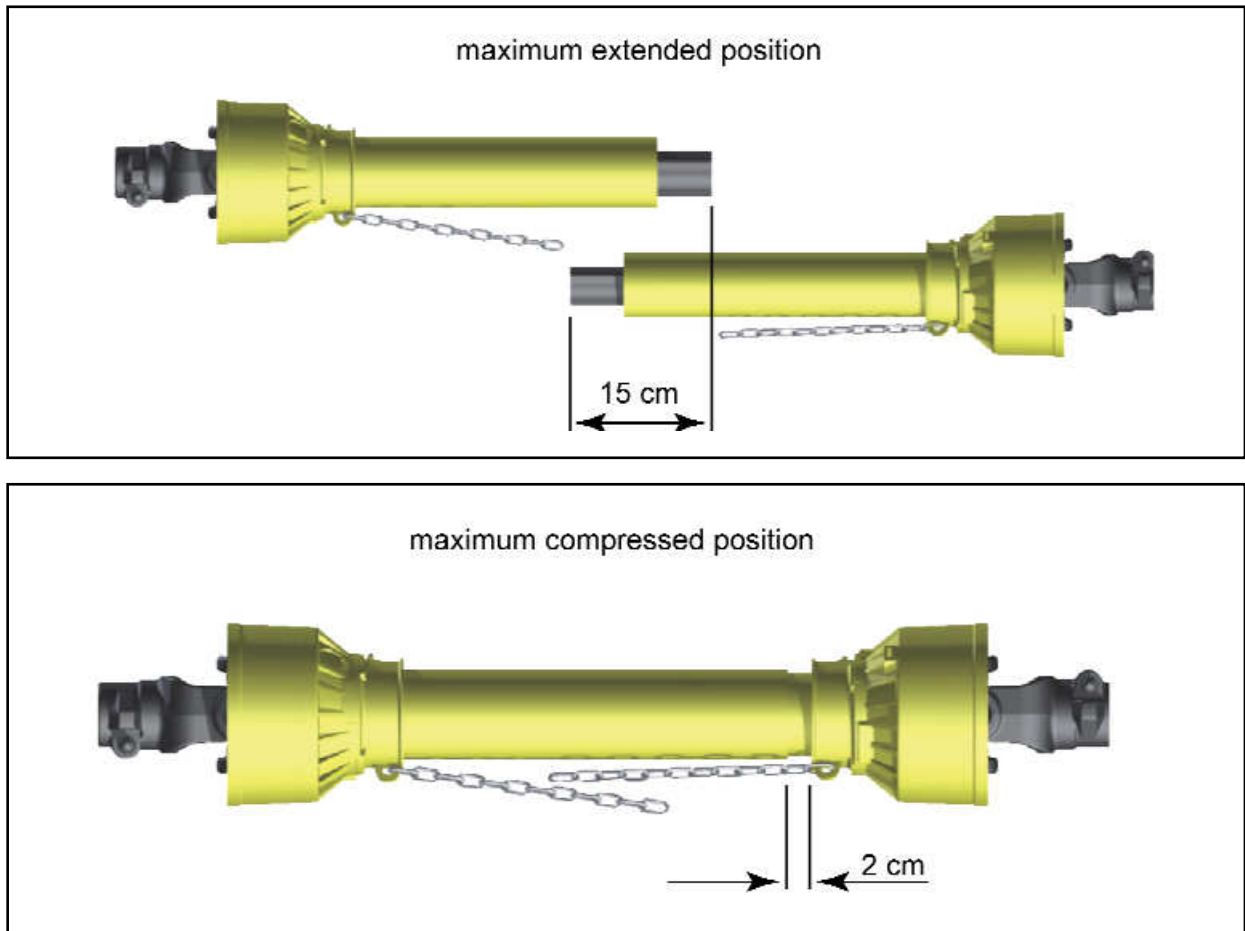
The length of the driveshaft must be such to:

- Avoid bottoming out of the transmission tubes, when the driveshaft is in compressed position (when Cultivator is raised up off the ground).
- Ensure an overlapping of the transmission tubes enough to transmit the torque required, when the driveshaft is in max extension (when Cultivator is in its lowest position in the ground).

When the driveshaft is at its minimum length (max compressed position), there must be at least 2 cm between the ends of each transmission tube and the yokes side.

When the driveshaft is at its maximum operational extension, there must be an overlap between the tubes profiles of 15 cm at least.

DRIVELINE INSTALLATION



A driveshaft that is too long may cause structural damages to the tractor and machine. If the driveshaft is too long, it may be adapted by removing it and shortening the tubes according to the instructions provided by the Manufacturer in its use and maintenance manual.

A driveshaft that is too short can cause disengaging of the tubes during operation, with severe hazard for the operator and structural damage to the tractor and machine. If the driveshaft is too short, it must be replaced with a longer one. In this case contact the Manufacturer or your Dealer.

IMPORTANT

- Before operating the Cultivator the first time, make sure that the driveshaft is lubricated in accordance with how indicated in the instruction booklet.
- Before operating the Cultivator the first time, and after long periods of inactivity, make sure that the driveline clutch has run a short “run in” in accordance with what indicated in the instruction manual of the Manufacturer, removing the possible oxidation of the components that may compromise the correct slipping during the usage (see also section “Maintenance”).
- Always engage the tractor P.T.O. at low rpm to minimise the effect of the peak torque on the driveline and the machine.

TRACTOR STABILITY

The weight of the machine modifies the stability of the system tractor-Cultivator, resulting in possible loss of steering control and braking.

The front axle of the tractor should always be loaded with at least 20% of the overall weight of the system tractor-Cultivator.

CAUTION

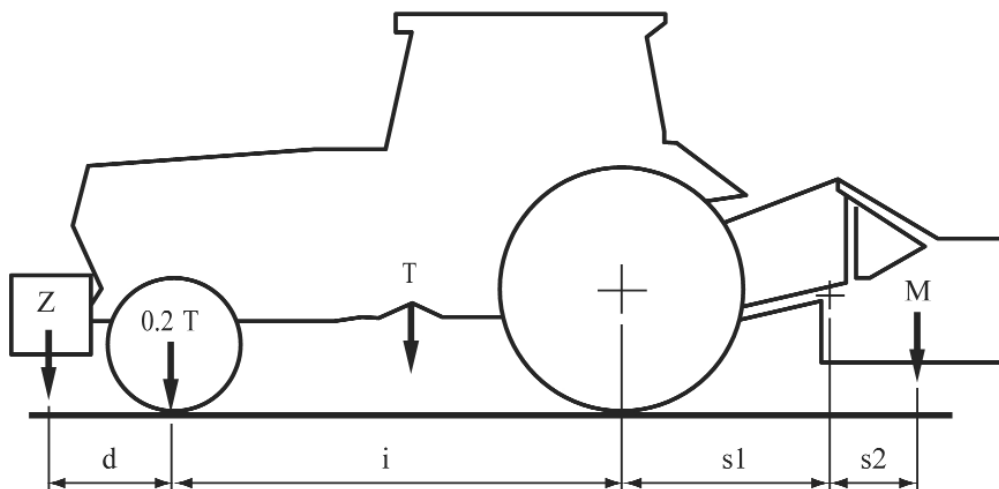
Check the lifting capacity and stability of the tractor making sure the following relations are complied with

(see table below for definitions):

- $M \times (S1+S2) \leq 0.2 \times T \times i + Z \times (d+i)$
- $M \leq 0.3T$

If this does not occur, apply the front ballast required. To determine the appropriate characteristics of the ballast, refer to the manual of the tractor.

i = Tractor wheelbase (cm)



d = Distance between front axle and ballast centre of mass (cm) T = Weight of tractor + operator (75 kg)

Z = Ballast weight (kg)

M = Implement weight (kg)

$s1$ = Distance between rear axle and lower hitch points (cm)

$s2$ = Distance between lower hitch points and implement centre of mass = 34 cm

Before operating the Cultivator, make sure you have read and understood the operating manuals of the Cultivator, tractor and P.T.O. shaft, and followed what is described in the section "Set Up".



DANGER

During operation, adjustment, maintenance, repairing or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE).

Before starting work, ensure that all machine guards are in good conditions and fully functional.

During operation, the machine can throw material from the rear: prevent people and animals from approaching the operational area.

START-UP



WARNING

Before conducting the above inspections and service, make sure the tractor engine is off, all rotating parts are completely stopped and the tractor is in park with the parking brake engaged and the tractor key removed. Make sure the machine is resting on the ground or securely blocked up and the tractor lifting hydraulics locked.

Before the start up and before each use, perform the following pre-operation inspections and service of the implement:

- Check that the machine does not have damaged functional parts and has all mechanical parts in good condition. Repair and / or replace the damaged parts.
- Check that the machine has no missing parts (pins, safety pins, plugs oil ...). Replace the missing parts.
- Check that all guards and safety devices have no damages and are properly positioned. Repair and / or replace the damaged shielding, restore the correct position.
- Verify that the P.T.O. driveshaft is properly installed (see section: Connection of the drive shaft).
- Check the presence of lubricant in all greasing points of the machines (driveshaft, supports...) (see sections: Maintenance / Driveline and Maintenance / Support rotor).
- Check for oil leaks from the gearbox or the transmission side cover. Identify the reason of loss, then repair and / or replace the damaged components.
- Check the correct oil level in the gearbox and in transmission side box (see section maintenance).
- Check that blades are not excessively worn and the relating hardware is correctly tightened (see section Maintenance).
- Check that all the machine hardware is properly tightened. Refer to the tightening table in the manual for proper torque values.
- Check that all safety decals are correctly positioned, in good condition and legible. Replace any damaged decals.
- Check that there is no obstruction that may prevent the movement of equipment. Remove any obstruction.

Before the start up and before each use, make the following checks on the operating area identified for cultivating.

- Check that area is clear of foreign objects (rocks, branches or debris). Remove any obstacle and visibly highlight obstacles that cannot be eliminated (e.g. by means flags).
- Make sure that there are no people or animals within the working area.
- Make sure that the soil to be worked is not too grassy, muddy, sandy or rocky.

Once all the checks above have been done, start the tractor and the Cultivator as follows:-

- Start the tractor and engage the P.T.O. at low rpm, making sure that the Cultivator is NOT in the raised position but close to the ground, then increase the speed of the engine to 540 rpm; at the P.T.O.
- Lower the machine on the ground and simultaneously start driving the tractor at low speed. Subsequently increase the ground speed depending on ground conditions;
- If the environmental temperature is extremely cold, it's recommended to wait a few minutes with the P.T.O. of the tractor at low rate before lowering the Cultivator completely on the ground.
- Drive for a while operating the Cultivator, then stop the tractor to check the quality of the work performed. If you need to get off the tractor, lift the Cultivator just out of the ground, reduce engine speed and disengage P.T.O., set the parking brake, stop engine and remove the ignition key.

If the working depth or soil texture are not as desired, correct them by adjusting the skids and/or the rear cover (see sections "Adjustments").

OPERATING INSTRUCTIONS

During operations:

- Always keep the tractor engine at rpm rate ensuring to the Cultivator the right power required for the use.
- Always keep a tractor speed adequate to working conditions (from 2 to 10 km/h approx.).
- Choose a driving pattern that provides the maximum pass length and minimises turning.
- When working on slopes avoid working along the hillsides, making the steps from top to bottom. Where possible always try to work up the slope.
- Always perform changes and reverse of direction with P.T.O. disengaged and the Cultivator slightly lifted from the ground to avoid damage to the machine.
- Periodically check for foreign objects wrapped around the rotor shaft and remove them, after disengaging P.T.O., turning off tractor engine, and removing ignition key.
- If the blades strike a foreign object, or in case of prolonged intervention of the clutch due to an object wedged into the rotor, stop operating immediately, idle the engine speed and disengage the PTO. Wait until all rotating parts have stopped moving, then raise the implement and proceed to removing the object, after having stopped the tractor, and applying the parking brake. Once the engine has stopped also remove the ignition key. Repair any damages immediately, and make sure rotor and blades are in good condition before restarting operation.
- Avoid friction clutch overheating caused by too long or too frequent slipping of the clutch, since this can damage the friction plates and clutch parts.

Typical problems that may occur operating the Cultivator are described in the Troubleshooting section, together with their solutions.

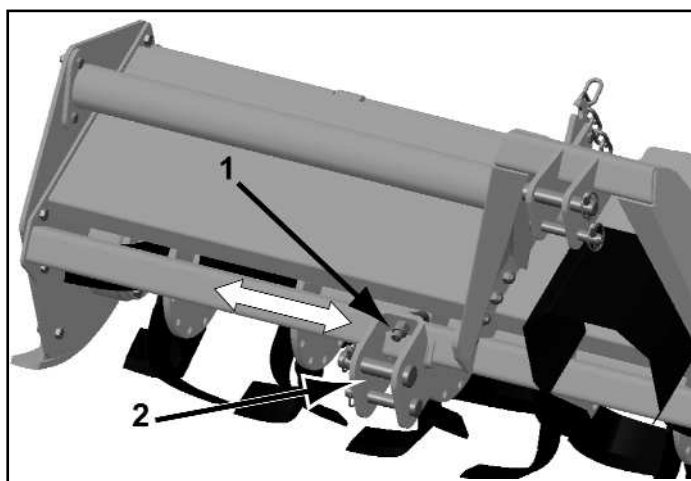
LOWER CLEVISES ADJUSTMENT



WARNING

All adjustment operations must be performed with the tractor engine off, the PTO disengaged, the Cultivator lowered to the ground or on security stands, the parking brake set and the ignition key off.

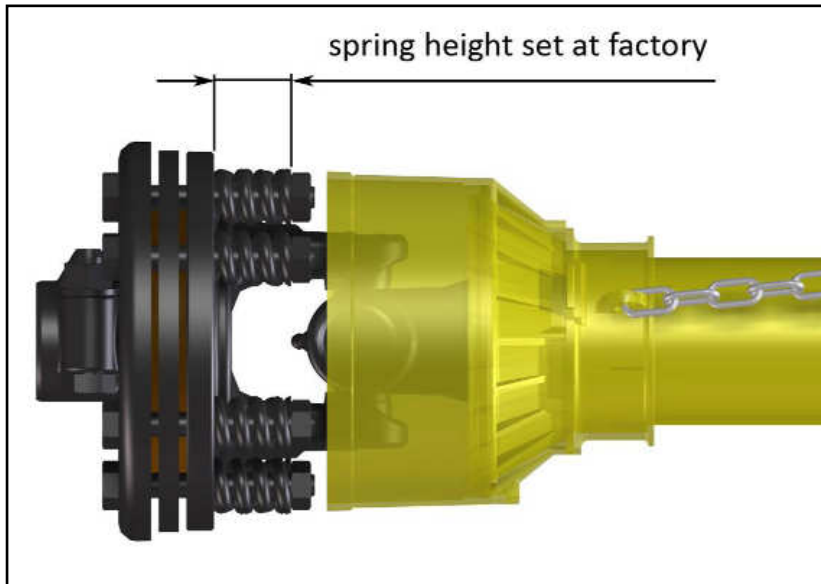
It is possible to adjust the lower hitch position loosening the U-bolts 1 (see picture below) and sliding the clevis 2 on the square tube. Tighten the U-bolts after making any adjustment required.



FRICION CLUTCH ADJUSTMENT

The PTO driveshaft and friction clutch are designed to transmit adequate power to the Cultivator.

The clutch preserves the machine from overloads, through the slipping of friction discs, and limits the max torque transmissible to a calibrated value set at factory. It is recommended, therefore, to leave this value unchanged to avoid damage to the machine or to the driveshaft.



An adjustment can be done, however, when the clutch slipping is too frequent, which means that the calibration is too low.

In this case, the tightening of nuts over the compressed springs will give an increase in transmissible torque.

On the contrary, a loosening of the nuts over the springs will give a decrease in transmissible torque.

IMPORTANT:

For details about clutch adjustment, refer to the user manual of the Manufacturer of the driveshaft installed.

The Manufacturer is no liable for damages resulting from a wrong modification of the clutch calibration.

NOTE:

Excessive tightening of the springs can prevent the clutch from slipping and to protect the machine from overload.

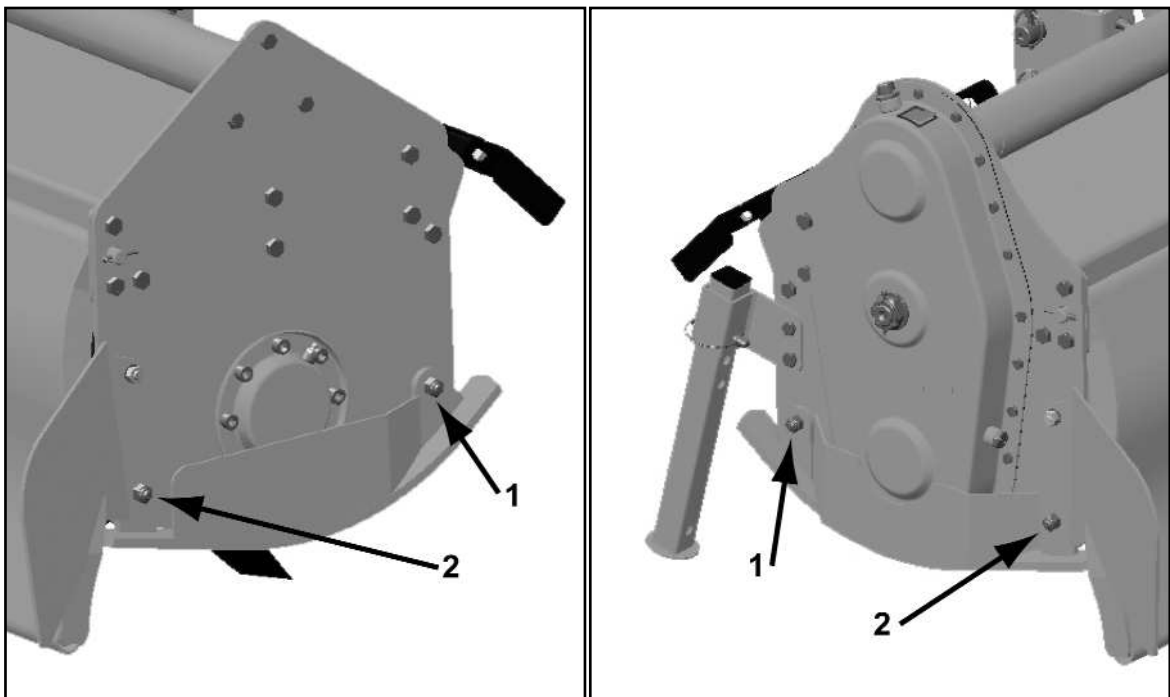
Make sure that the height of all the compressed springs is equal to prevent clutch malfunctioning.

SKIDS ADJUSTMENT

The working depth of the Cultivator is determined by the position of the side skids:- It may be increased by raising the skids, and decreased by lowering them. It is important that both skids are adjusted at the same height.

To adjust the working depth, perform the following steps:-

- Lift the machine, put it safely on security stands, then switch the tractor engine off, disengage the PTO, set parking brake and turn off the ignition key.
- Loosen the bolt in the front of the skid (bolt 1 - see picture).
- Unscrew and remove the bolt on the rear of the skid (bolt 2 - see picture).
- Adjust the height of the skid through the holes, as desired.
- Reinstall bolt 2 (refer to the tightening table of this manual for proper torque values).
- Tighten bolt 1 (refer to the tightening table of this manual for proper torque value).

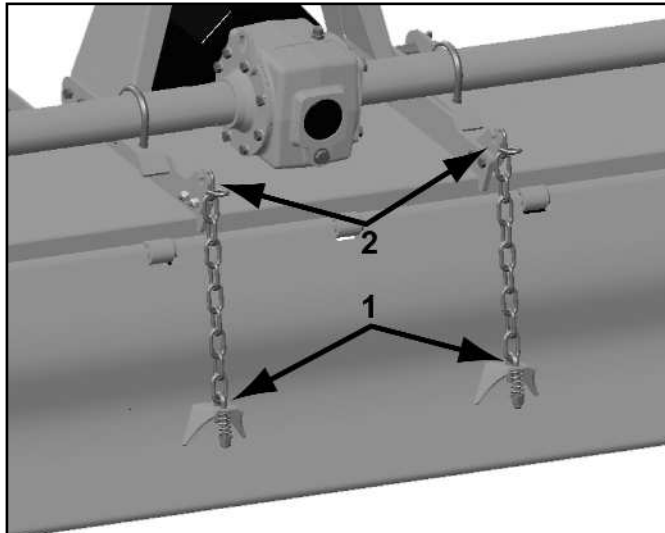


When finished, verify that both skids are at the same level, and check if the front of the Cultivator is levelled to the back, when lowered to the ground. Adjust with the 3-point top link if necessary.

REAR BOARD ADJUSTMENT

The RC Cultivators are equipped with a rear board with two chains.

The position of the rear board is adjustable by varying the number of chain links tensioned under the weight of the board, included between the rear board U-bolt 1 and the slot of the frame 2 (see picture below).



- To raise the rear board, reduce the number of chain links in tension. This operation, together with the increase of the tractor ground speed, allows to have a coarser soil texture.
- To lower the rear board, increase the number of chain links in tension. This operation, together with the reduction of the ground speed, allows to have a finer soil texture.

IMPORTANT

Be sure to set the same number of chain links in tension for both chains, in order to equally divide the weight of the rear board between the chains.



WARNING

To avoid the risk of crushing or cutting of fingers, raise or lower the rear board only from the lower edge, not from the sides.

STOPPING AND DISCONNECTION

To stop the Cultivator at the end of a working session:-

- Bring the tractor to a complete stop.
- Place the transmission in park or neutral.
- Reduce the engine speed, then disengage the P.T.O.
- Wait for all rotating parts to stop.
- Lower the implement to the ground.
- Set the parking brake.
- Shut down the engine and remove the key before exiting the tractor.
- Do the cleaning and maintenance required to make the machine ready for later use (see section Maintenance).



WARNING

Never leave the tractor unattended with the implement in the lifted position.

To disconnect the Cultivator from the tractor (e.g. to make a change of implement):-

- Adjust the skids to their lowest position (see the Adjustments section).
- Adjust the parking stand to the lowest position, through the use of relative retaining pin.
- Park the tractor on a dry and level surface.
- Reduce the engine speed, then disengage P.T.O.
- Wait for all rotating parts to stop.
- Lower the implement to the ground.
- Set the parking brake.
- Shut down the engine and remove the key before exiting the tractor.
- Place safety blocks under Cultivator to prevent unit from tipping over onto a child and/or an adult. A Cultivator that tips over can result in injury or death.
- Disconnect the driveline from the tractor P.T.O. and rest it on the provided support of the Cultivator.
- Disconnect the top link and rear lifting arms of the tractor from the Cultivator hitches.
- Check the Cultivator stability. If needed, place additional safety blocks.
- Get on the tractor, start the engine and move away from the Cultivator slowly.
- Make sure the Cultivator remains stored in a protected area, to prevent any unauthorised personnel from approaching it.

Before a long term storage (e.g. at seasonal end), do cleaning and maintenance operations as specified in sections MAINTENANCE and STORAGE.

TRANSPORTING

To set the Cultivator for transportation, perform the following steps:-

- Idle tractor engine, disengage tractor P.T.O., and wait for all rotating parts to stop.
- Lift the Cultivator until the transport position, making sure the driveline transmission tubes does not contact tractor or Cultivator. A minimum gap of 2 cm should be leaved between the tubes and tractor and Cultivator (see also section Driveline installation).
- Lock the tractor lifting hydraulics, turn off the engine, set the parking brake, remove ignition key and get off the tractor.
- Adjust the parking stand to the highest position, through the use of relative retaining pin, to prevent its possible damage during transport.

When driving on public roads, follow strictly all local laws and traffic regulations.



WARNING

When driving on public roads, reduce your speed, be aware of traffic around you and proceed in such a way that faster moving vehicles may pass you safely.

MAINTENANCE

Proper and regular maintenance ensures a long life of the equipment, avoids failures and saves time and repair costs.

Periodic inspections and maintenance operations described in this section must be performed by operator in the times and terms prescribed. Failure to comply with maintenance prescriptions can compromise the functioning and duration of the machine, and consequently invalidate the warranty.

The frequency of maintenance indicated refers to normal conditions of use: it must be intensified in severe operating conditions (frequent stops and starts, prolonged winter season etc ...).

Repairs, maintenance and modifications other than those mentioned in this paragraph should NOT be performed without consulting the Manufacturer or your Dealer. Manufacturer, as the case, may give the authorisation to proceed with the repair together with all necessary instructions.

Wrong or inappropriate repairs or maintenance may generate abnormal operating conditions, equipment damage and generate risks for the operator.



WARNING

For safety reasons, all maintenance operations must be performed with tractor P.T.O. disengaged, Flail Mower stopped and completely lowered to the ground or onto support blocks, parking brake set, tractor engine shut off, and ignition key removed.



IMPORTANT

Respect the environment. Store or dispose of unused chemicals as specified by the chemical Manufacturer.

BLADES REPLACEMENT

Frequently check the wear condition of blades through visual inspection. The wear of blades is very variable depending on the type of soil

Replacement of the blades is necessary when the operator notices increase of power absorption during tilling, or when the blade dimension is significantly reduced compared to the original.

The use of the machine with blades in a bad condition compromises the quality of work.

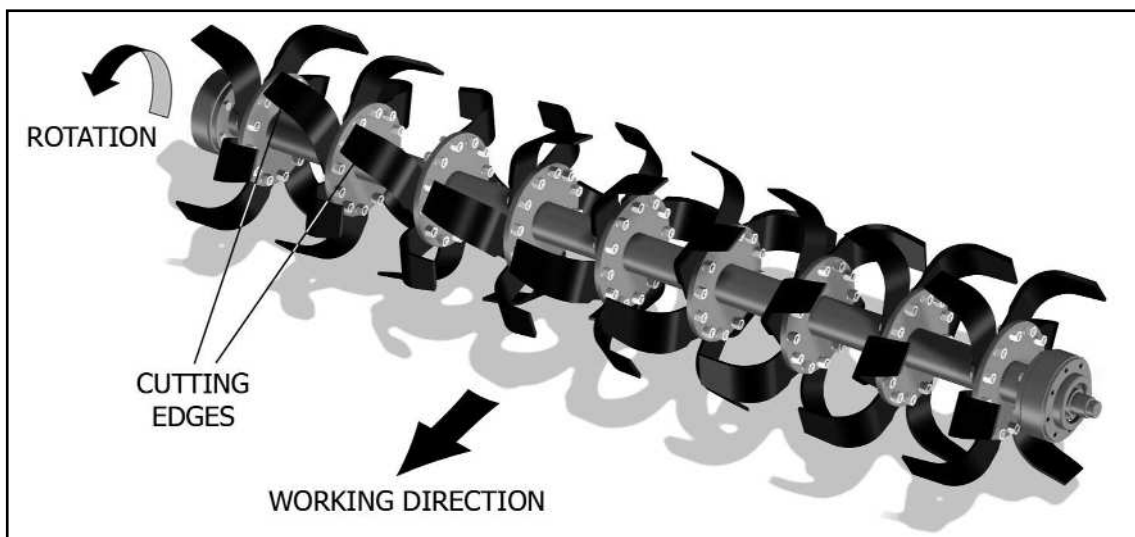
Before performing replacement of the blades:-

- Idle tractor engine, set the parking brake, disengage tractor PTO, and wait for all moving parts to come to a complete stop.
- Place the Cultivator slightly lifted from the ground on safety blocks or mechanical stands.
- Lock the control lever of the hydraulic lift of the tractor.
- Turn off the tractor and remove the key.

To perform the replacement of blades:-

- Remove the two bolts and washers clamping the blade to the rotor flange, then remove the blade.
- Position the new blade exactly instead of the worn blade, then tighten the bolts, referring to the tightening table of this manual for proper torque values. Be sure to install the blade with cutting edge in front of the direction of rotation.
- Repeat the same procedure for all the other blades.

At the end of the replacement, make sure the blades have the right helical arrangement, as shown in the picture below.



IMPORTANT

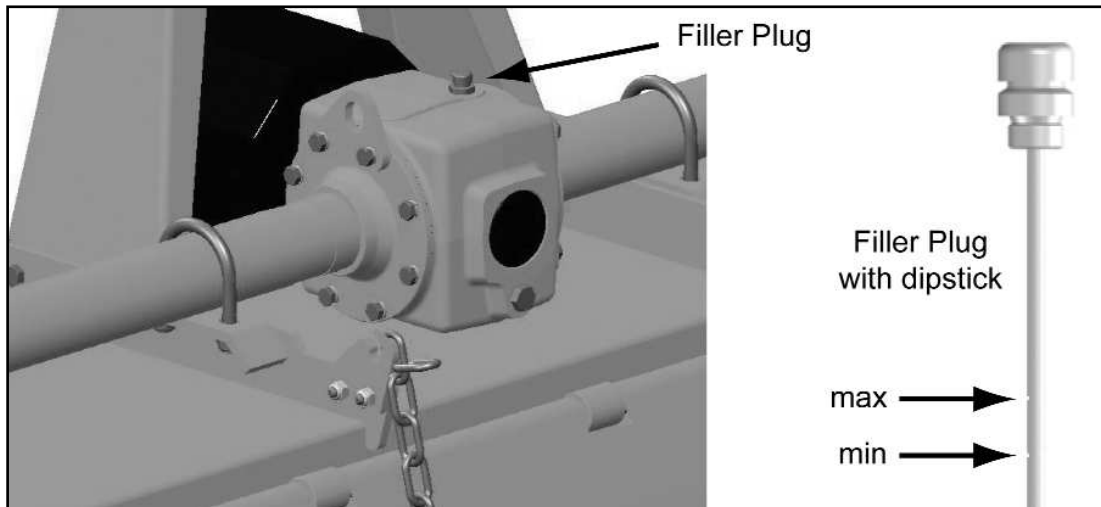
Periodically check the tightness of screws and nuts, and tighten if necessary.
Remove and install one blade at a time to ensure blades are correctly oriented when installed.
Replace worn blades only with original parts.



WARNING

Worn tines may be very sharp!

GEARBOX LUBRICATION



If the sign is below the minimum, fill up with oil to the correct level.

The oil change must be performed:-

- After the first 50 working hours.
- After every 500 working hours.

To make the oil change:-

- Place a tank under the oil drain plug (bottom of gearbox).
- Unscrew the oil drain plug and drain oil completely into the tank.
- Re-tighten the drain plug.
- Unscrew the oil filling plug.
- Fill up oil to restore the correct level (between the two reference dipstick marks).
- Re-tighten the filling plug.
- Dispose the discharged oil into containers for used oil.



CAUTION

Before touching the gearbox wait until it has cooled sufficiently.

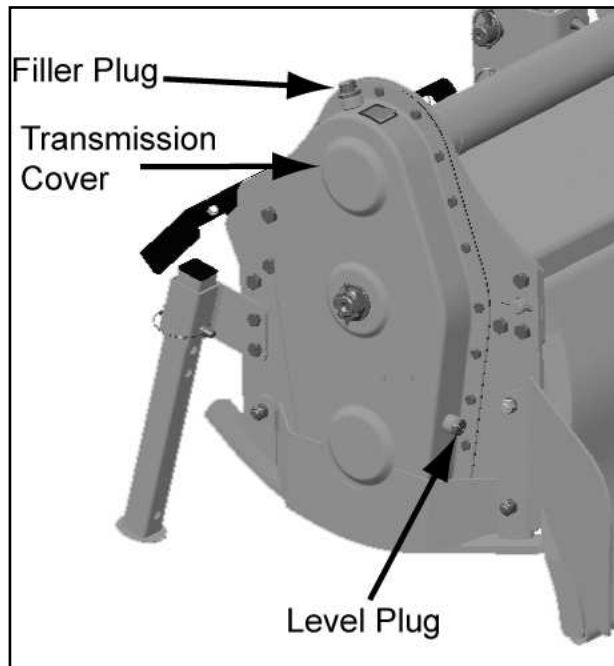
IMPORTANT

Frequently check possible oil leaks from the Cultivator through visual inspection, and in case of leakage provide immediately proper maintenance.

Avoid oil leaks on the ground when restoring oil level or making an oil change.

SIDE CASE LUBRICATION

Lubricant :- SAE EP 140 gear oil.



Check the oil level every 50 hours, making sure it reaches the level plug on the transmission cover.
If the oil is below this level, fill up oil to restore the level.
The oil change must be performed every 500 working hours.

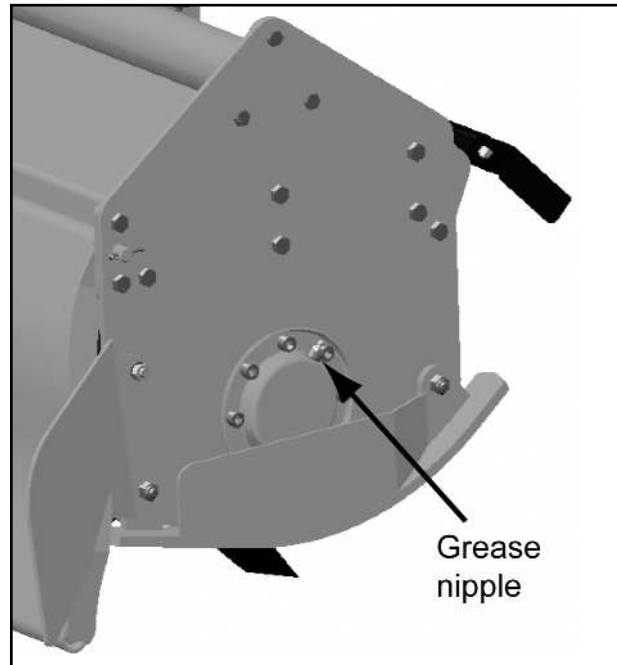
To make the oil change:-

- Remove the skid from the transmission side.
- Place a tank under the oil level plug.
- Unscrew the oil level plug and drain the oil completely into the tank.
- Re-tighten the level plug.
- Unscrew the oil filling plug (top of transmission cover).
- Fill up with oil to the correct level (until level plug).
- Re-tighten the filling plug.
- Replace the side skid.
- Dispose the discharged oil into containers for used oil.

BEARING HOUSE LUBRICATION

Lubricant:- SAE multi-purpose lithium-type grease.

Grease the rotor hub support every 8 working hours, using a suitable grease gun.



IMPORTANT

Make sure the grease nipple is clean before using the grease gun.

Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

MAINTENANCE

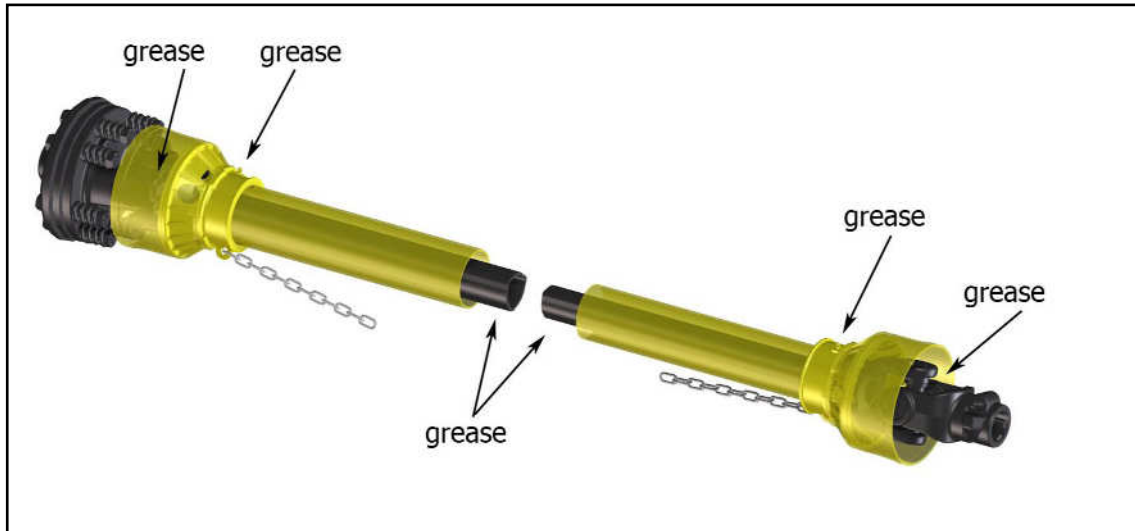
Lubricant: Wessex Prolube EP 2 lithium-type grease (or equivalent).

Frequency: each 20 working hours.

Grease crosses, sliding parts of protective shielding and driveshaft transmission tubes.

IMPORTANT

For details about maintenance and lubrication of the driveshaft, refer to the user manual of the driveshaft Manufacturer.



DRIVESHAFT CLUTCH

Exposure to the elements of the Cultivator and Driveshaft, or a long period of inactivity, generally results in oxidation of some clutch components, and creates a "sticking" effect on the clutch.

Consequently, the torque required to the slippage of the clutch increases considerably to the value set at the factory, and this may be a cause of driveshaft breakage during operation, or damage to the tractor or implement.

To avoid it, before re-using the Cultivator, the operator must perform a short "run-in" of the clutch as follows:-

- Take note of the height of the compressed springs.
- Loosen the bolts that compress the springs.
- Connect the Cultivator to the tractor (see section Connecting to the tractor).
- Connect the driveshaft (see section Driveline installation).
- Start the tractor and engage PTO for a few seconds, in order to cause slippage and separation of the "sticked" parts of the clutch.
- Turn off the tractor, remove the key and wait for all components to stop before dismounting from the tractor.
- Re-tighten the bolts, restoring the original springs in position on the driveshaft.

NOTE

For replacement of the driveshaft service parts (e.g. friction discs), refer to the user manual of the driveshaft Manufacturer.

STORAGE

Before leaving the machine unused for a long time, it's necessary to perform following tasks to preserve the appearance and functionality of the machine, and to make easier the restart at later use:-

- Park the Cultivator on a flat surface, in a place dry and protected from exposure to the elements. Possibly with storage temperature between 0 and 50 °C (see section Stopping and disconnection).
- Thoroughly clean the machine, removing from the rotor all residues due to tilling, in order to avoid damage from grass and stagnant water.
- Carefully inspect the machine, checking for worn and/or damaged parts. Perform immediately all repairs, and/or replacements needed, in order to make the machine ready for restarting.
- In case of abrasion of painted surfaces, provide restoring the surface protection through touch up paint to prevent rust.
- Make sure the safety decals are in their original positions, intact and legible. When required, replace the decals immediately.
- Lubricate properly all grease points, and restore the oil levels as indicated in the Maintenance section. Use protective oil to coat the exposed mechanical components and to protect them against rust.

SCRAPPING

In case of scrapping, the machine must be disposed in appropriate and authorised sites, according to local legislation.

Before scrapping, separate plastic parts from rubber parts, aluminum, steel, etc. Recover and dispose any exhausted oils to authorised centres for oil collecting.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Gearbox/transmission case noise noticeable and constant	• Low oil level. • Worn gears.	• Add oil to the gearbox/transmission case. • Replace gears
Intermittent noise from Cultivator	• Loose blades. • Gear tooth damaged.	• Tighten blades hardware. • Replace damaged gear.
Noise and/or vibration from Cultivator	• Blades worn or damaged. • Bearings damaged. • The front of the Cultivator is not levelled to the back. • Rotor damaged. • Hard soil.	• Replace blades. • Replace bearings. • Adjust 3-point top link tractor making Cultivator PTO parallel to the ground. • Repair/replace rotor. • Reduce ground speed.
Driveline vibration	• Worn driveshaft. • Machine lifted too high. • Debris wrapped on rotor.	• Replace driveshaft. • Lower machine and re-adjust tractor lift stop. • Remove debris.
Rotor stops turning	• Slip clutch slipping. • Broken drive chain.	• Reduce load to Cultivator or adjust slip clutch. • Repair broken link.
Machine skip or leaves crop residue	• Badly worn blades. • Slip clutch slipping. • Ground speed too fast for conditions.	• Replace worn blades. • Adjust slip clutch or reduce load. • Reduce ground speed.
Smoke and/or hot smell from Cultivator	• Debris wrapped around in blades and/or rotor. • Low oil level in gearbox. • Slip clutch slipping	• Remove debris. • Add oil. • Reduce load to machine or adjust slip clutch.
Gearbox overheating	• Low oil level. • Hard soil.	• Add oil. • Reduce ground speed.
Blades wear frequently	• Muddy or sandy soil.	• Reduce ground speed.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Blades break frequently	• Stoney soil.	• Reduce ground speed.
Oil leaking from gearbox/transmission case	• Gearbox /transmission case overfilled. • Loose filling/drain plug. • Damaged breather plug. • Damaged seals.	• Drain to proper level. • Tighten filling/drain plug. • Replace breather plug. • Replace seals.
Tillage depth insufficient	• Cultivator is carried by tractor. • Tractor has insufficient power. • Skids need adjusting. • Blades incorrectly installed • Debris Caught in Rotor	• Lower tractor 3-point arms. • Increase PTO speed. • Adjust skids. • Install tines correctly. • Clear rotor and/or blades.
Soil texture too coarse	• Rear board too high. • PTO speed too slow. • Ground speed too fast.	• Lower rear board. • Increase PTO speed. • Reduce ground speed.
Soil texture too fine	• Rear board too low. • Ground speed too slow.	• Raise rear board. • Increase ground speed.
Tiller chocking up with soil	• Blades worn or bent. • Blades incorrectly installed. • Rear board too low. • Soil too wet.	• Replace blades. • Install tines correctly. • Raise rear board. • Wait until soil dries.
Tiller skipping on ground or leaving crop residue	• Blades incorrectly installed (wrong helical arrangement, cutting edge in wrong direction). • Debris entangled in blades and/or rotor. • Ground speed too fast. • Soil too hard.	• Install blades correctly (replace right helical arrangement, position cutting edge in front of rotation direction). • Clear rotor and/or blades. • Reduce ground speed. • Reduce ground speed and make tilling in more steps.
Tillage not uniform	• Blades worn or damaged. • Skids not aligned. • Cultivator left side not levelled with right side.	• Replace blades. • Align skids. • Adjust tractor 3-point arms.
Tractor not powerful enough	• Excessive working depth. • Excessive PTO speed.	• Lower skids. • Reduce PTO speed.

TORQUE VALUES TABLE

Frequently check the Flail Mower hardware to ensure that all screws and bolts are tightened according to torque values listed in the table below:-

	8.8 GRADE	10.9 GRADE
BOLT SIZE (METRIC)	Nm	Nm
M6	11	15
M8	26	36
M10	52	72
M12	91	125
M14	145	200
M16	225	315
M18	310	405
M20	440	610

SPARE PARTS

All repairs and replacements on the machine must be performed only by using original spare parts, which must be obtained from the Wessex International or your Dealer.

This section contains the information needed to identify the parts of FLAIL MOWER that may be ordered from the Manufacturer.

When requesting spare parts from the Manufacturer, always give the following information:

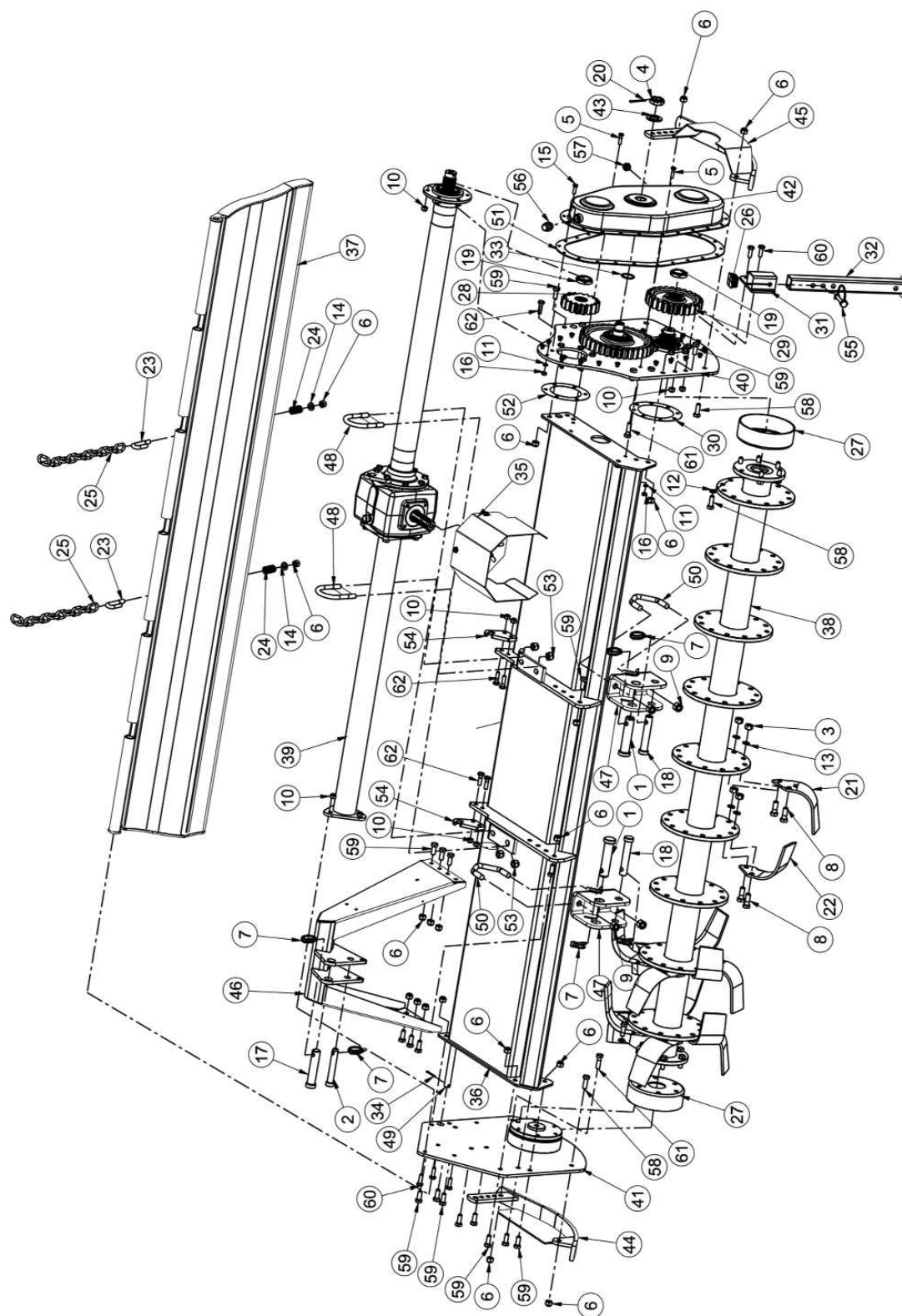
- Type of machine;
- Serial number of Flail Mower
- Part number and description.
- Quantity required.

NOTE

For identification of part numbers and description of safety decals refer to the Section Safety labels. For identification of part numbers and description of P.T.O. driveline parts, refer to the manual of the driveshaft Manufacturer.

The Manufacturer reserves the right to substitute a required part with an equivalent part, if applicable.

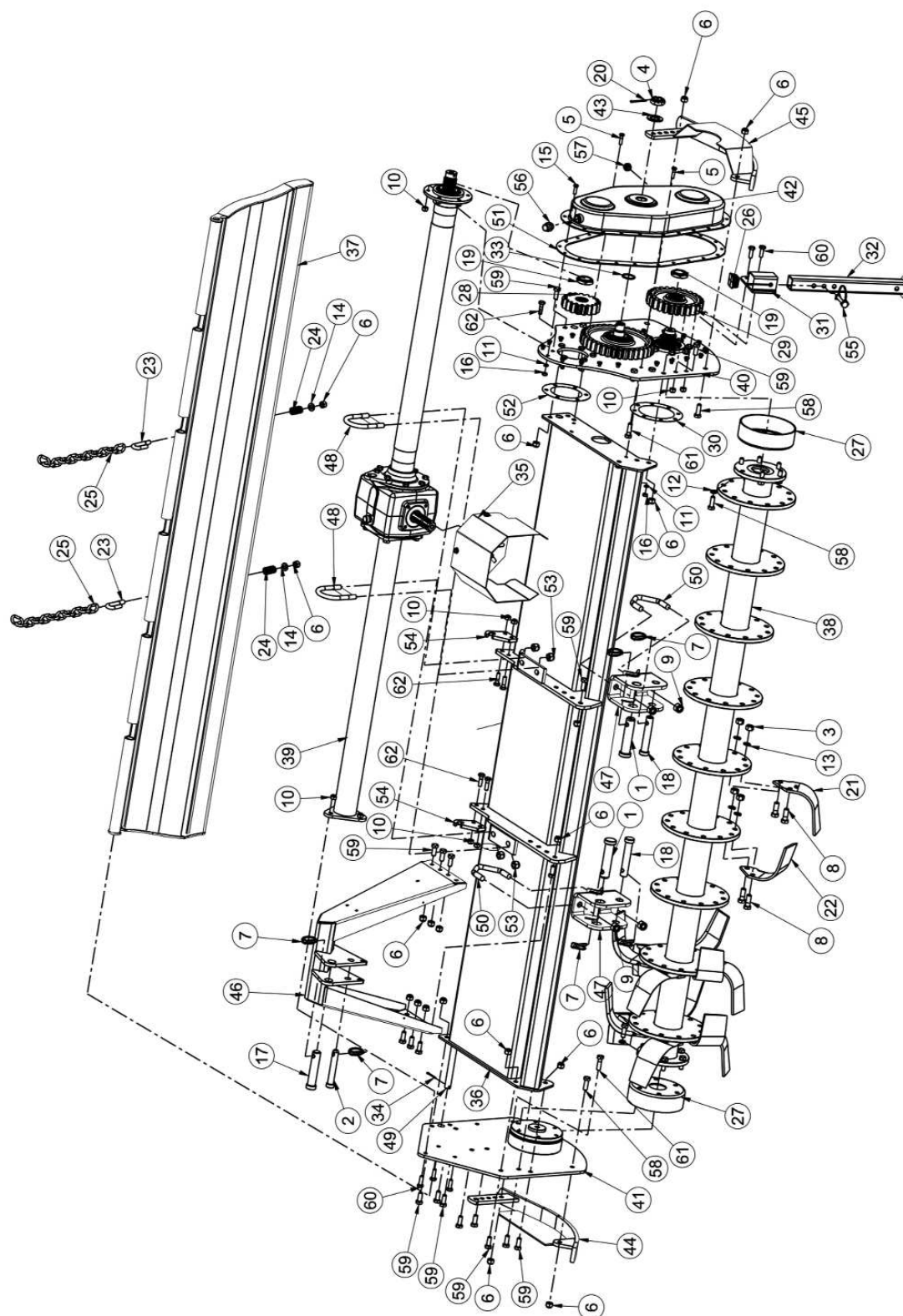
PARTS ILLUSTRATION - MAIN FRAME & ROTOR ASSEMBLY



PARTS LIST - MAIN FRAME & ROTOR ASSEMBLY

Item No.	Part No.	Description	Qty
1	SS-1217	Hitch Pin Bottom Cat-II (Dia - 28 x 129)	2
2	SS-1214	Hitch Pin Top Cat-I (Dia - 19 x 126)	1
3	SS-9528	Hex Nut - M14 x 1.50	96
4	SS-14366	Nylock Nut - 28mm	1
5	SS-14442	Flange Bolt M8 X 1.25 X 30	2
6	SS-1209	Nylock Nut - M12 x 1.75	28
7	SS-1218	Linch Pin	6
8	SS-2202	Hex Bolt - M14 x 1.50 x 37	96
9	SS-1231	Nylock Nut - M16 x 2.0	4
10	SS-1298	Nylock Nut - M10 x 1.50	15
11	SS-14360	Spring Washer - 8mm	22
12	SS-1306	Spring Washer - 12mm	12
13	SS-1307	Spring Washer - 14mm	96
14	SS-8126	Plain Washer - 12mm	2
15	SS-14441	Flange Bolt - M8 x 1.25 x 25	20
16	SS-8181	Hex Nut - M8 x 1.25	22
17	SS-1215	Hitch Pin Top Cat-II (Dia - 25 x 126)	1
18	SS-1216	Hitch Pin Bottom Cat-I (Dia - 22 x 129)	2
19	SS-1449	Nylock Nut - M35 x 1.50	2
20	SS-14137	Cotter Pin (Dia - 3.5 x 70)	1
21	SS-3126	Blade - Left Hand	24
22	SS-3127	Blade - Right Hand	24
23	SS-14004	J-Bolt - M12 x 1.75 x 24 x 87.5 x 25TL	2
24	SS-14005	U-Bolt Spring	2
25	SS-14073	Lifting Chain	2
26	SS-4657	Plastic Cap - 40mm	1
27	SS-14130	Dust Cover	2
28	SS-14138	Side Gear - 17 Teeth	1
29	SS-14139	Side Gear - 26 Teeth	1
30	SS-14433	Housing Gasket	1
31	SS-14104	Side Stand Outer	1
32	SS-14105	Side Stand Inner	1
33	SS-4663	O Ring - 35 x 3.5	1
34	SS-19018	Cotter Pin - (Dia - 4 x 35)	2
35	SS-1547	PTO Shaft Guard	1
36	SS-14250	Main Frame	1
37	SS-14253	Trailing Board	1
38	SS-14252	Rotor	1
39	SS-14251	Gearbox	1
40	SS-14158	Rotor Support Assembly (Drive End)	1

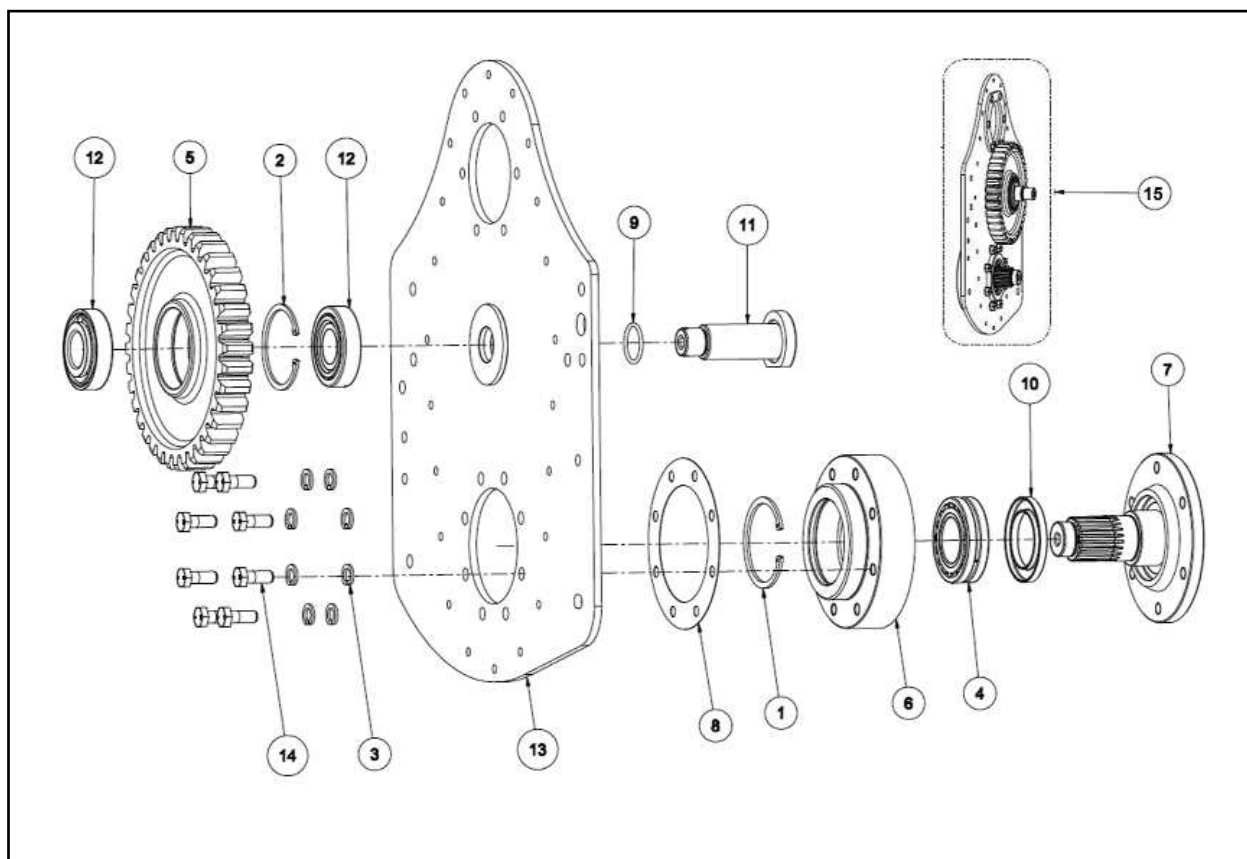
PARTS ILLUSTRATION - MAIN FRAME & ROTOR ASSEMBLY



PARTS LIST - MAIN FRAME & ROTOR ASSEMBLY

Item No.	Part No.	Description	Qty.
41	SS-14159	Rotor Support Assembly (Non Drive End)	1
42	SS-14160	Chain Cover	1
43	SS-14161	Spacer - 30 x 50 x 4	1
44	SS-14163	Depth Skid - Right Hand	1
45	SS-14164	Depth Skid - Left Hand	1
46	SS-14377	Top Mast	1
47	SS-14374	Hitching Bracket	2
48	SS-14167	U Bolt - M14 x 2 x 88 x 115.40 x 30TL	2
49	SS-14249	Trailing Board Rod	1
50	SS-14422	V-Bolt M16 x 2 x 104.5 x 104.5 x 40.5TL	2
51	SS-14383	Chain Cover Gasket	1
52	SS-14176	Housing Flange Small Gasket	1
53	SS-1574	Nylock Nut - M14 x 2.00 (DIN-982)	4
54	SS-11726	Chain Lifting Hook	2
55	SS-14267	Square Snapper Pin D10 x L70	1
56	SS-14310	Air Breather - 1/2" BSP	1
57	SS-14314	Oil Level Gauge - 3/8" BSP	1
58	SS-17274	Hex Bolt - M12 x 1.75 x 35 (8.8)	14
59	SS-17275	Hex Bolt - M12 x 1.75 x 30 (8.8)	22
60	SS-3340	Hex Bolt - M10 x 1.50 x 30 (8.8)	5
61	SS-3343	Hex Bolt - M12 x 1.75 x 40 (8.8)	2
62	SS-3345	Hex Bolt - M10 x 1.50 x 35 (8.8)	10

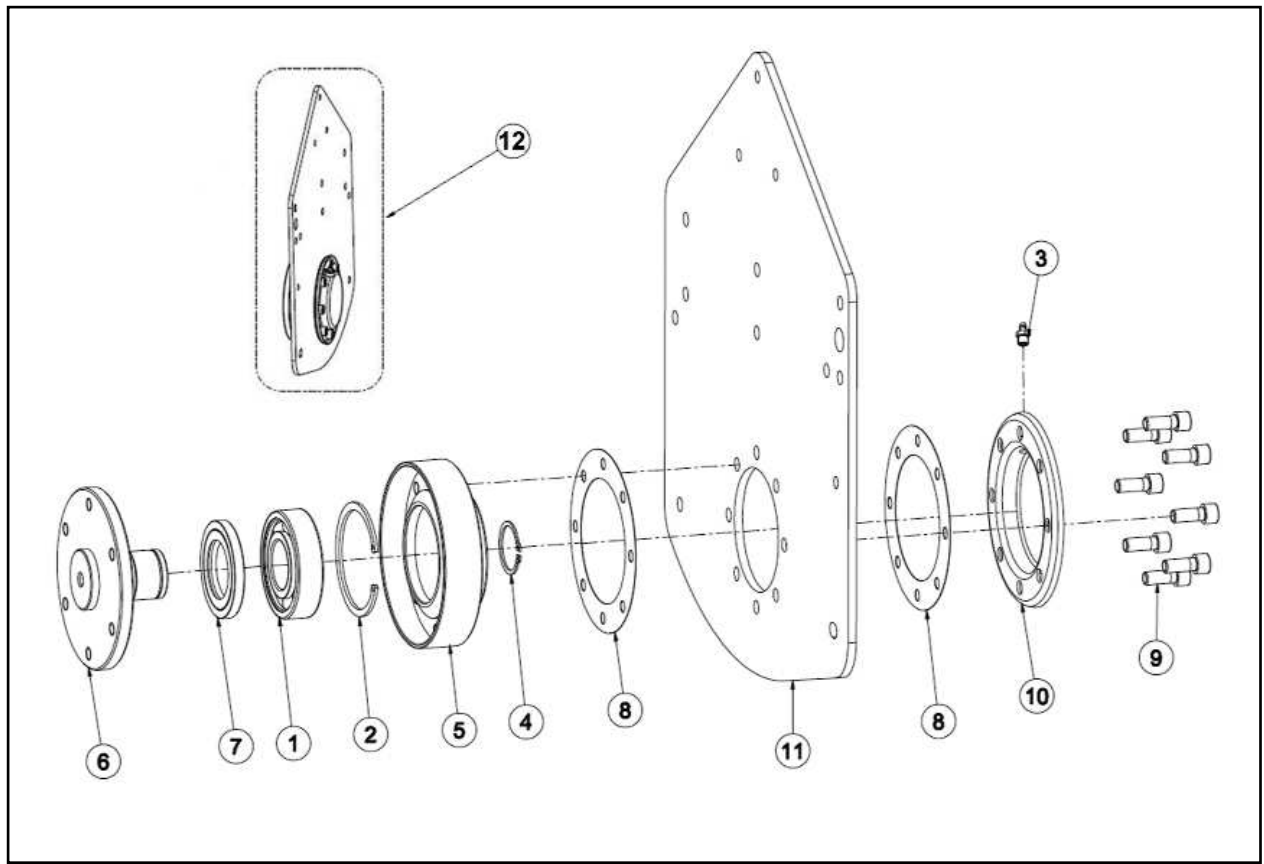
PARTS ILLUSTRATION - ROTOR SUPPORT - DRIVE END



PARTS LIST - ROTOR SUPPORT - DRIVE END

Item No.	Part No.	Description	Qty.
1	SS-1049	Circlip Internal - 85mm	1
2	SS-1130	Circlip Internal - 80mm	1
3	SS-1306	Spring Washer - 12mm	8
4	SS-8268	Bearing	1
5	SS-14140	Side Gear - 36 Teeth	1
6	SS-14141	Bearing Cover	1
7	SS-14145	Driveshaft (Rotor)	1
8	SS-14135	Housing Gasket	1
9	SS-4663	O Ring - 35 x 3.5	1
10	SS-14128	Oil Seal - 85 x 55 x 8	1
11	SS-14148	Driveshaft (Middle)	1
12	SS-14177	Bearing	2
13	SS-14157	Rotor Support Plate	1
14	SS-17275	Hex Bolt - M12 x 1.75 x 30 (8.8)	8
15	SS-14158	Drive Plate, Complete Assembly	1

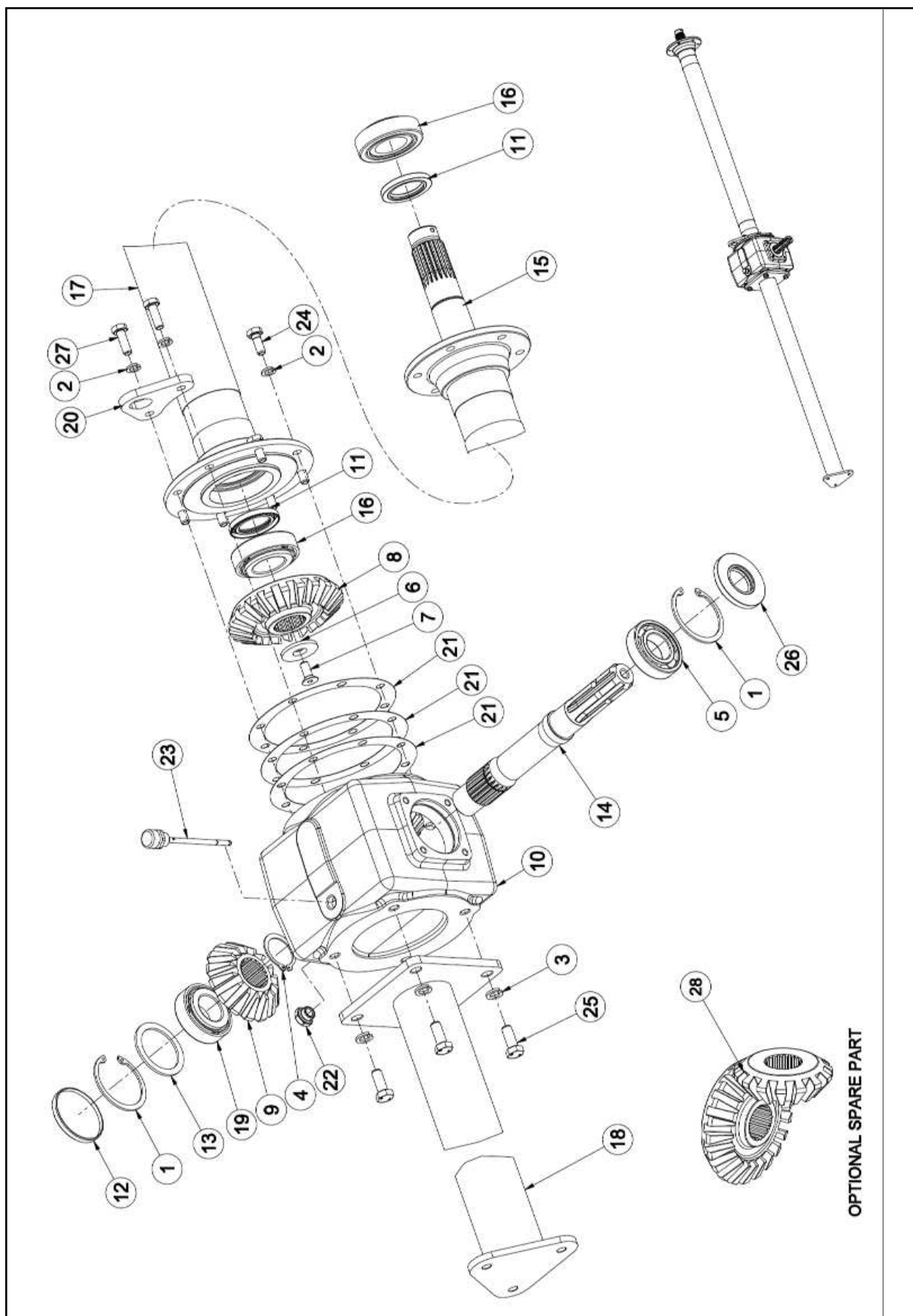
PARTS ILLUSTRATION - ROTOR SUPPORT - NON DRIVE END



PARTS LIST - ROTOR SUPPORT - NON DRIVE END

Item No.	Part No.	Description	Qty.
1	SS-1073	Bearing	1
2	SS-1074	Circlip Internal - 100mm	1
3	SS-1253	1/8 BSP Grease Nipple - 7.5mm	1
4	SS-2089	Circlip External - 45mm	1
5	SS-14114	Bearing Cover	1
6	SS-14117	Stub Axle Shaft (Non Drive End)	1
7	SS-14122	Oil Seal - 55 x 90 x 10	1
8	SS-14135	Gasket	2
9	SS-17027	Allen Bolt - M12 x 1.75 x 30	8
10	SS-14102	Stub Axle End Cover	1
11	SS-14179	Rotor Support Plate	1
12	SS-14159	Non Drive Plate, Complete Assembly	1

PARTS ILLUSTRATION - GEARBOX ASSEMBLY

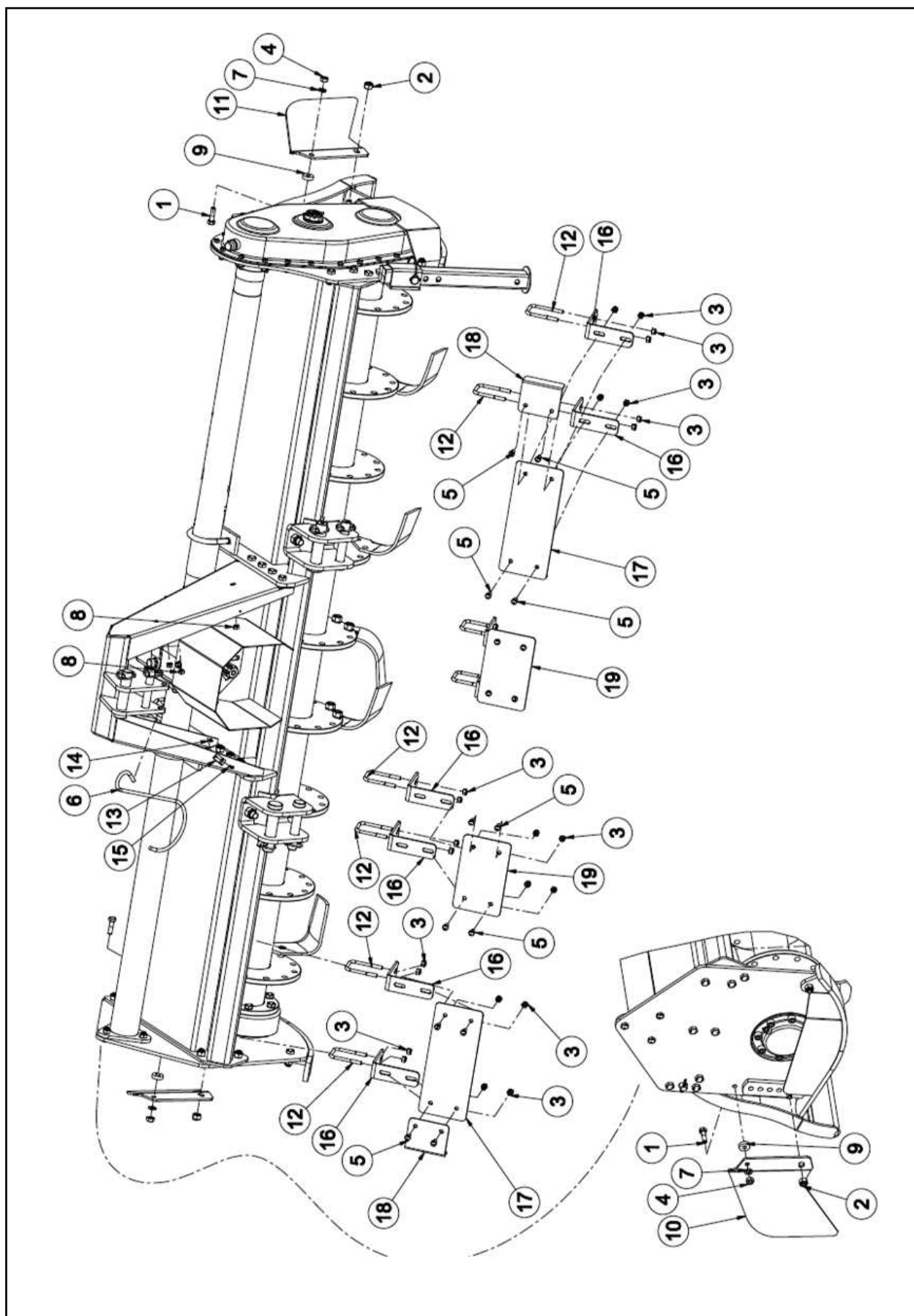


OPTIONAL SPARE PART

PARTS LIST - GEARBOX ASSEMBLY

Item No.	Part No.	Description	Qty.
1	SS-1002	Circlip Internal - 72mm	2
2	SS-1304	Spring Washer - 10mm	8
3	SS-1306	Spring Washer - 12mm	4
4	SS-8027	Circlip External - 40mm	1
5	SS-10143	Bearing	1
6	SS-14049	Crown Washer	1
7	SS-14058	Countersunk Bolt - M10 x 1.5 x 25	1
8	SS-14142	Crown - 22 Teeth	1
9	SS-14143	Pinion - 15 Teeth	1
10	SS-14144	Gearbox	1
11	SS-14121	Oil Seal - 40 x 62 x 7	2
12	SS-14119	Oil Seal - 72 x 8	1
13	SS-14120	Spacer - 71.50 x 56 x 3	1
14	SS-14146	Input shaft	1
15	SS-14248	Cross Shaft	1
16	SS-14149	Bearing	2
17	SS-14254	Shaft Housing - (Drive End)	1
18	SS-14255	Shaft Housing - (Non Drive End)	1
19	SS-14155	Bearing	1
20	SS-14178	Gearbox Lifting Hook	1
21	SS-14174	Gasket	3
22	SS-14312	Drain Cap - 3/8" BS	1
23	SS-14315	Dipstick - 116mm (M16 x 1.5)	1
24	SS-17270	Hex Bolt - M10 x 1.50 x 25 (8.8)	6
25	SS-17275	Hex Bolt - M12 x 1.75 x 30 (8.8)	4
26	SS-14309	Oil Seal - 35 x 72 x 8 (Special)	1
27	SS-3340	Hex Bolt - M10 x 1.50 x 30 (8.8)	2
28	SS-14370	Crown T22, Pinion T15 (Pair)	1

PARTS ILLUSTRATION - CE KIT ASSEMBLY



PARTS LIST - CE KIT ASSEMBLY

Item No.	Part No.	Description	Qty.
1	SS-6068	Hex Bolt - M10 x 1.50 x 35	2
2	SS-1209	Nylock Nut - M12 x 1.75	2
3	SS-1297	Nylock Nut - M8 x 1.25	32
4	SS-1299	Hex Nut - M10 x 1.50	2
5	SS-8040	Hex Bolt - M8 x 1.25 x 20	16
6	SS-14341	Driveline Hook	1
7	SS-8078	Plain Washer - 10mm	2
8	SS-8181	Hex Nut - M8 x 1.25	3
9	SS-14194	Spacer - Dia-28 x 11 x 8mm	2
10	SS-14214	Toe Guard Plate - Left Hand	1
11	SS-14215	Toe Guard Plate - Right Hand	1
12	SS-14220	U-Bolt - M8 x 1.25 x 87 x 69 x 28TL	8
13	SS-23147	Plate - Hook Holding	1
14	SS-23028	Hex Nut - M4 x 0.75	1
15	SS-23029	Hex Bolt - M4 x 0.75 x 10	1
16	SS-4731	Bracket - Front Barrier	8
17	SS-4740	Plate - Front Barrier (L=300)	2
18	SS-4741	Plate - End - Front Barrier	2
19	SS-4739	Plate - Front Barrier (L100)	2

P.T.O. SHAFT OPERATION AND MAINTENANCE

IMPORTANT!

P.T.O. drive shafts must only be used for their intended purpose.

P.T.O. drive shafts are designed for specific machine types and power requirements.

They must not be replaced by other models.

Ensure that the P.T.O. drive shaft is securely connected.

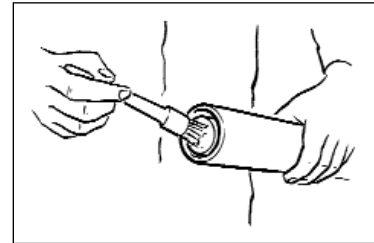
Only use a completely protected drive system:

P.T.O. drive shaft with complete guard and complementary guard on tractor and implement. A complete guard is essential in all working positions.

LUBRICATION

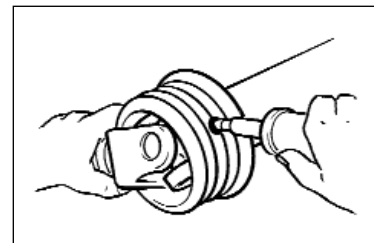
Lubricate with quality grease before starting work and every 40 operating hours.

Ensure the P.T.O. guard bearings are lubricated, the end ball shaped covers need retracting to expose all grease nipples.



Clean and grease the P.T.O. drive shaft before each prolonged period of non-use.

Grease the guard tubes in winter to prevent freezing.

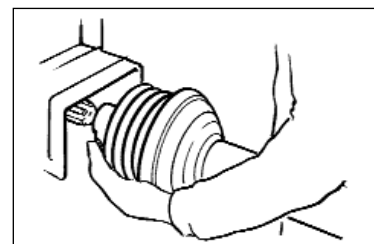


COUPLING THE P.T.O. SHAFT

Clean and grease the P.T.O. and PIN

Q.-d pin

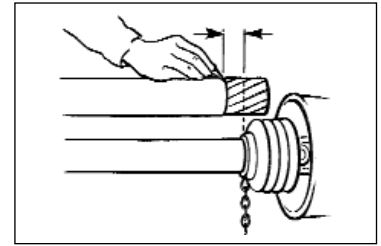
Press q.-d. pin and simultaneously push P.T.O. drive shaft onto P.T.O. until pin engages.



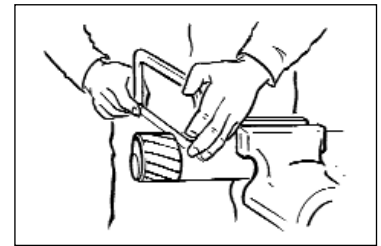
P.T.O. SHAFT OPERATION AND MAINTENANCE

LENGTH ADJUSTMENT

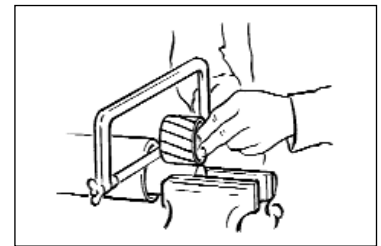
To adjust the length, hold the half-shafts next to each other in the shortest working position and mark them.



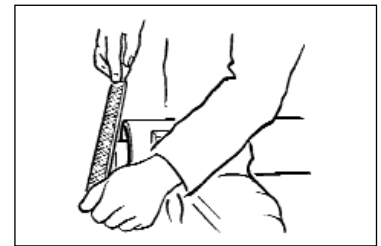
Shorten inner and outer guard tubes equally.



Shorten inner and outer sliding profiles by the same length as the guard tubes.



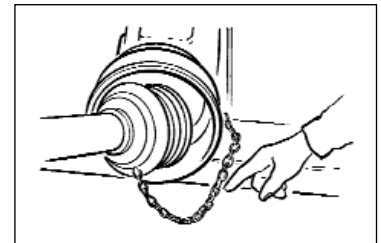
Round off all sharp edges and remove burrs.
Grease sliding profiles.



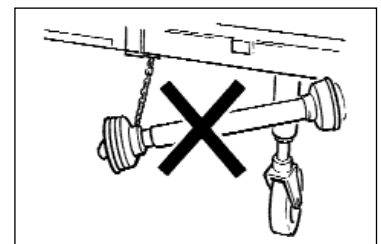
No other changes may be made to the P.T.O. drive shaft and guard.

CHAINS

Chains must be fitted so as to allow sufficient articulation of the shaft in all working positions.



Do not let the chains encircle the P.T.O. guard in use as this will shorten the life of the P.T.O. guard.



The P.T.O. drive shaft must not be suspended from the chains! Please use the P.T.O. Support Hook provided.

[illegible]

[illegible]



Certificate of CE Conformity

Machine Model:

RC-190

Description:

ROTARY CULTIVATOR

*I hereby certify that the machine detailed hereon
conforms to:*

**European Directives 2006/42/EC
Supply of Machinery Regulations 2008
As amended 91/368EEC – 93/44EEC – 93/68EEC
HSE AIS 33**

Signed:

.....
Quality Manager

Date:

MAY 2019

Wessex International

Charlton House, Caxton Place, East Portway Industrial Estate, Andover, Hampshire SP10 3QN
Telephone: 01264 345870 Fax: 01264 345 880

www.wessexintl.com



Wessex International
Charlton House, Caxton Close, East Portway Industrial Estate, Andover Hampshire. SP10 3QN
Telephone: 01264 345870 Fax 01264 345880
e-mail: sales@wessexintl.com

www.wessexintl.com
